



Connected
4Health

Project Number: 2021-1-RO01-KA220-HED-000032108



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ISBN 978-606-581-182-9

European Insights of Connected4Health Project - A Medical and Humanities-based Approach to Navigating Obesity and Eating Disorders (EDs) in Young People
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Cultural and Historical Perspectives on
Body Image, Obesity, and Eating Disorders

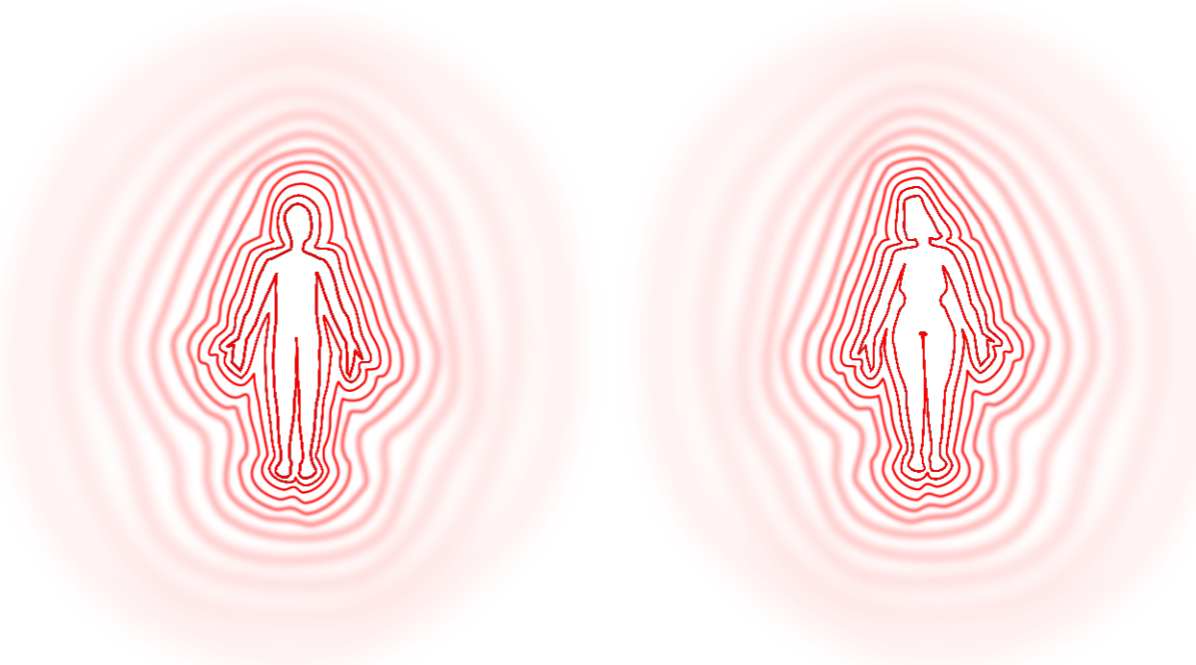


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Editors: Anişoara Pop, Carlo Rais, Monica Tarcea

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Tehnoredactare: autorii

Tipar: Centrul de Copiere - University Press Târgu Mureș, 2022



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Descrierea CIP a Bibliotecii Naționale a României
POP, ANIȘOARA

Cultural and historical perspectives on body image, obesity, and eating disorders / Anișoara Pop, Carlo Rais, Monica Tarcea. - Târgu Mureș : University Press, 2022

Conține bibliografie

ISBN 978-606-581-182-9

I. Rais, Carlo

II. Tarcea, Monica

61

Editura University Press

Director editură: Conf. dr. Georgeta Fodor

Correspondență /comenzi: UMFST G.E. Palade Tg. Mureș, România

Adresa: Str. Gh. Marinescu, nr. 38, Târgu Mureș, Mureș, România, cod 540142

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2022

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"Health" by Saule Skarbaliute (12 y). Teenager stresses healthy eating habits and physical activity.

Introduction: A humanistic perspective on body image, obesity, and eating disorders - European insights of *Connected4Health* project

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Abstract. *This introductory chapter defines the background, context, and the Connected4Health project niche, its general and specific objectives, of which the current publication represents the first result. It defines how the research responds to identified needs through a diachronic historical perspective on the issue of body image, fatness, and idealisation of today, as well as synchronic national reports and case studies that define obesity and eating disorders (Eds) from the joint medical and humanities' point of view in the European countries participating in the project.*

1. Patients with obesity and eating disorders - stigmatised and vulnerable

People of large body sizes who are generally termed overweight, fat, or obese (medical term) are often stigmatised, suffering ridicule, employment bias and hire inequity, as well as social relations prejudices of shame and exclusion or may have lower educational employment expectations. While stereotypes of fat persons as cosy or lazy are frequent in the mass media, people with obesity can also be blamed and mis-judged by healthcare providers themselves, all stemming from the belief that weight is an issue of personal choices and is entirely controllable by the individual. Given the discrimination to which fat people are subjected, it is not surprising they are more likely than others to suffer from depression, anxiety and low self-esteem, which in turn may lead to a greater likelihood that they will eat for comfort [1]

Body dissatisfaction refers to the negative feelings and thoughts about one's body and the perceived discrepancy between the current and the ideal body size [2]. Like young people with obesity, eating disorder patients (anorexic, bulimic, binge eaters) have low self-esteem, are dissatisfied with their body image and weight, and tend to isolate themselves, not seeking specialist help, in a continuous damaging bias-blaming-shaming vicious circle. According to the literature, EDs are associated with some of the highest levels of medical and social disabilities of psychiatric disorders [3].

Causes and triggers

The challenges in both obesity and EDs are complex, with multiple causes and drivers outside of personal control, including genetic, biological, social, and environmental influences. To these, the isolation periods associated with the Covid-19 lockdown were superimposed, which have further aggravated the situation through the social communication restrictions and especially through the constant focus on the fat body stigma and weight gaining as reflected by the pandemic memes and jokes, serving as a wrong message to the overweight and ED people. Within this context, mention should be made that a young person's weight is a sensitive topic to address, anorexia and the other EDs going unnoticed, overlooked, and untreated for long periods of time, despite being associated with serious health consequences and high rates of

morbidity. This evidence shows an urgent need for change and intervention towards a joint medical, communication, and educational approach of young people with obesity and EDs.

2. Project niche: An integrated medical and humanities-based approach to obesity and EDs in young people

Nutrition is just one component in the treatment of obesity, EDs, and disordered eating, its effectiveness being temporary unless these conditions are approached from a multitude of perspectives including empathetic communication, counselling, motivational therapy, and customized physical activity/ fitness, besides medication.

Although networks of care have often been encouraged, little is known or has been done in terms of an integrated approach to obesity and EDs in many European countries. Acquiring evidence-based knowledge and complementary abilities to approach and treat these patients holistically can be done through continuous medical education such as promoted by the project entitled *Connected4Health (C4H) - An integrated medical and humanities-based approach to obesity and EDs in young people* [4].

Project partners

Connected4Health is coordinated by *GEP UMPHST Târgu Mureş* and involves six other European universities and institutions: Palacký University, Olomuc (Czech Republic), Klaipeda University (Lithuania), University of Belgrade (Serbia), Pixel (Italy), Instituto Politécnico de Bragança (Portugal), and Autonomous University of Madrid (Spain).

Project aims – A salutogenic approach

The general aims of Connected4Health project are to:

- promote diversity, healthy eating habits, understanding, and wellbeing in young people of different sizes;
- raise awareness among target groups (lecturers, GPs and other physicians, residents, students, but also parents, healthcare staff, youth organisations, insurance companies, society at large, etc.) about the stigma and harm associated with obesity and eating disorders.
- change the way in which people at large think and perceive weight stigma in obesity and EDs and its social-psychological consequences (discrimination) by developing a non-stigmatizing, salutogenic rather than solely pathogenic approach to public health.

Specific objectives and envisaged project results

More specifically, project partners collaborate to produce teaching and self-learning materials based on an interdisciplinary, team-based approach to the treatment of obesity and eating disorders that will:

- Foster research, change, and intervention in tackling and managing obesity and EDs that cartography the situation in the participating countries, showcasing and deconstructing the bias in the public discourses, much aggravated by the Covid pandemic while underlining local best practice initiatives and programmes.
 - To this end, *A Handbook on Body Image, Obesity, and Eating Disorders*, i.e. the current book that is published in the partnership languages and in English, offers a historical and cultural perspective on obesity and body image.
 - The Handbook includes local reports and strives to answer some key questions: Why has the fat body become so reviled and reviewed as diseased, the target of such intense discussion and debate about ways to

reduce its size down to socially and medically acceptable dimensions? How does the slenderness culture, the selfie-holic and digitally-enhanced social media idealism contribute to eating disorders and disordered eating? How do these differ between geographical locations, between social groups, and cultures?

- Provide higher education lecturers/trainers in nutrition/dietetics, diabetology, endocrinology, paediatrics, communication, psychotherapy, physical education and fitness/weight management, other lecturers in general medicine teaching nutrition (paediatrics, surgery, internal medicine, neurology, etc.) with skills, knowledge, methods and tools to explore and address teaching/training obesity and EDs through a trans-disciplinary approach. The project supports other specialists in different medical fields to acquire new trans-disciplinary knowledge and skills in order to deal effectively with these marginalised, biased and at high risk patients.
 - To this end, project specialists will provide the target users with interdisciplinary curricula in the form of an online interactive 7-week syllabus – *Multidisciplinary Approach to Young People with Obesity and Eating Disorders* – a comprehensive didactic tool for an integrated teaching of obesity and eating disorders (including multimedia resources, assessment, summative evaluation quizzes, and further bibliography).
- Enhance the knowledge and practical skills of specialists-to-be (residents, master students and students in clinical years involved in internships and practical stages), consolidate their knowledge and skills in approaching patients with obesity and eating disorders, disordered eating, especially due to the latter's reluctance to seek help and communicate openly, and the former's difficulty of being approached from a limited medical and physical exercise perspective, only.
 - To this end, project partners will create an online self-training package – *Effective Management of Young Patients with Obesity and Eating Disorders* – that will bring further insights and consolidate knowledge and skills through interviews with specialists in the partner countries and best practice simulated dialogues with patients.

3. The Handbook on body image, obesity, and eating disorders

Young people, teenagers in particular, focus increasingly on their appearance and physical attraction, body dissatisfaction being common and predicting poor physical and psychological health. Although many young people who are deemed overweight or obese try hard to fight their extra kilos, they may suffer discrimination, prejudice and humiliation whereas anorexia and the other ED young patients are often marginalized, bullied as weak, their condition going on unnoticed, undiagnosed, and thus untreated, although these conditions are associated with high comorbidity and serious health consequences.

A diachronic and synchronic perspective

The current book fills in a gap of knowledge in the approach of obesity and EDs in young people. It proposes a novel synchronic (European) and diachronic (historical) perspective that is interdisciplinary: the medical approach (reports by local physicians) is enriched by the contribution of the humanities (reports based on reviews and case studies).

What exactly is the situation in the European countries regarding young people with obesity and EDs?

The research questions for this study are:

1. How is thinness/fatness defined and portrayed, and how has that changed over time? (historical perspective)
2. What are the media advertising and social media portrayals and messages in terms of fatness, slenderness, dieting, healthy/unhealthy eating? What are the risk factors for obesity (food advertising), anorexia (perceived pressure to be thin, thin-ideal internalization, body dissatisfaction, and negative affect) in the local media advertising and social media, music video clips in the participating countries. (socio-human dimension)
3. What are the current international/local guidelines and initiatives to raise awareness and prevent obesity and EDs at European level? (medical perspective)

To conclude, *The Handbook on Body Image, Obesity, and Eating Disorders*, therefore, intends to achieve an in-depth understanding of obesity, EDs, their stigma and harm from grassroots levels (historical, social, personal perspective), deconstructing current narratives in the public discourses of advertising and social media messages (fatness versus slenderness) and aims at creating a new narrative that will contribute to the reduction of body-shape stigma and bias.

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**Area I – HISTORICAL AND CULTURAL PERSPECTIVES ON OBESITY
AND BODY IMAGE**

A historical perspective on body image

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Abstract. *Each culture has developed a specific image of the human body, assigning to it a series of meanings and establishing accepted and often contradictory reference models. As the concept of "human body" has changed over time, depending on cultural, social, economic, and political changes, so has the way in which it has been perceived and presented. This study aims to provide an introduction to how man has related to self-image and how the human body has become a reference paradigm for expressing an age-specific worldview.*

1. Introduction

Throughout history, mankind has always been preoccupied with self-image. The human body has thus become a subject of study and insight, but also an instrument through which artists, writers, and philosophers would build a collective image. Each age, each civilization, regardless of time and place, has in turn felt the need to develop a specific representation of the human figure, able to meet its aesthetic, symbolic and cultural needs. Body representation, as conceived by every age and every civilization and culture can be regarded as a direct reflection of self-perception, as well as a mirror of what our body means to others. The survey of body image evolution presupposes a mapping of the different ways in which the self and others' image have been constructed throughout history.

The plurality of interpretations and representations of the body at different historical moments and in different cultural spaces renders any attempt to unitary definition difficult. Beyond the chronological and cultural aspect, the difficulty of defining the represented body stems from yet another aspect. As for its interpretation, the way in which it is portrayed, deciphered, and transmitted, the human body has always been perceived as a whole, consisting of both physical as well as spiritual elements. Body and soul, material and spiritual, immanent and transcendent, good and evil are the dichotomies that converge in the way that body image is expressed. Man has always considered themselves a complex organism, in fact, the most complex mechanism that has ever existed, and this extraordinary complexity comes precisely from their double spiritual and material nature, respectively. This complex structure, already archetypal, is most clearly conveyed by the Faustian myth: Faust renounces his soul - hence his spiritual part - in exchange for indulging in all his bodily and worldly desires. His bargain with the Devil, however, can take place precisely because both parts - the body and the soul - belong to Faust, i.e., are parts of the self that he can dispose of.

Defining and elaborating successive interpretations of the human body in terms of "human entity" belongs mainly to philosophy, largely due to the contradictory duality of the human body concept. Through this continuous elaboration and re-elaboration, body image has undergone a "mutation", moving rather quickly from the status of natural life manifestation to that of cultural and symbolic themes. This evolution is quite visible in the case of Western culture and philosophy, but it needs to be refined for the major Eastern civilizations, where body and soul merge into a unitary entity, and philosophical dualism manifests itself in less radical

forms than in the Western, and especially Hellenic thinking. The more integrated and unitary body image of Eastern civilizations depends on a special sensitivity that they evince towards religious subject matters. Asian philosophical, artistic, and literary production - and generally that of the extra-European world, also including in European civilization, America in the age of post-geographical discoveries - is strongly linked to religious aspects and issues, body image functioning as an element of choice for the representation of divinity, as demonstrated, for example, by the Chinese cosmogonic myth of P'an-ku as described by Mircea Eliade, born: "in the time when Heaven and Earth were a chaos resembling an egg." When P'an-ku dies, his head turns into: "a sacred peak, his eyes became the sun and moon, his fat the rivers and seas, the hair of his head and his body became trees and other plants" [1]. As Eliade himself acknowledges, this myth is by no means isolated, its fundamental theme being present in numerous cosmogonic myths of extra-European civilisations [2]. By analysing this religious archetype, it is obvious that for extra-European civilisations, the importance of the human figure has deep roots, which go as far as the creation of the universe itself, even if sometimes, a more clearly defined aesthetic purpose can be identified.

Starting with the first uses for symbolic purposes, to the canonization of the classical world, to the distorted representations of the Middle Ages, to the true body cult expressed by the Renaissance civilization, to the continuous body tension between ecstasy and martyr specific to the Counter-Reformation Baroque, to the twentieth century culture disruptions, the history of the imagined body is a series of successive and often contradictory interpretations. Body image is thus functional for symbolically describing the worldview (or "weltanschauung", to use a German philosophic term) specific to the society that expresses it and, consequently, affirms it.

In the current approach, constructivist through vocation, we will resort mainly to artistic and literary sources, without completely neglecting the concepts and keys of interpretation from other fields of research. The ultimate goal is to provide a key reading on how man has perceived themselves, manifesting through their self-image the world-specific values and vision for each epoch and cultural space.

2. Prehistoric civilizations

The process of reconstructing the body image of primitive civilizations is intricate not necessarily because we lack written sources. Despite the enormous progress made in archeology, especially of late, our knowledge about our ancestors is still fragmentary and imperfect, and any interpretation risks to be dramatically overturned by almost daily new discoveries worldwide.

However, archeological excavations have provided a wealth of sources testifying to the fact that ever since its beginnings, people have felt the need and have been trying to represent the human body, albeit using different forms and hypostases. In its beginnings, art functions not only as a useful language for expressing experiences, but especially as a form of interaction with natural forces and with the transcendent world. This function of a means of communication among different planes of existence emerges from the very first forms of representation of the human body, as evidenced by the Paleolithic cave paintings, and especially the symbolic transformation of the female body as visible in a series of artifacts from different periods and geographical areas, all having the same fundamental themes.

Generally termed "Venuses", these statuettes - the best known of which is the so-called "Venus of Willendorf", dating back to the years 30,000 and 22,000 BC (fig. 1) - are the earliest forms of sculptural representation of the human body. Such early artifacts reproduce a female body defined by generous shapes of the breasts, hips, and belly. Despite their small size, the statuettes already demonstrate all the complexity of art works, endowed with symbolic and conceptual significance. To analyse only the so-called "Venus of Willendorf", it is a small statuette - only 11 cm - that reproduces an obese woman, but the manner is deeply realistic, combining the naturalistic form of the subject matter with stylistic schemes specific to

Paleolithic art [3]. The generous, even obese forms of the image have been interpreted as a symbol of fertility, probably related to the Mother Goddess worship. This desire to use the female body for symbolic purposes is most likely related to the primary needs felt by the first human communities: reproduction and thus the perpetuation of the species [4], access to food and ability to survive famine [5], which probably conduct more or less consciously to the idealisation of the generous forms of the female body, while male bodies are rendered by thinner shapes, necessary for access to food resources in a social system that is organized in groups of hunter-gatherers, as shown in the cave painting hunting scenes, such as those from the Horse Cave in Valltorta (Spain; fig. 2).



Fig. 1 – Venus of Willendorf (Naturhistorisches Museum, Vienna)



Fig. 2 – Cave paintings with hunting episodes (Horses Cave in Valltorta, Spain)

3. Ancient civilizations of the Middle East and North Africa

On passing from prehistoric to historical times, it is imperative to start our analysis with the fertile Crescent, a territory rightfully considered to be the cradle of the first great human civilizations.

3.1 Sumerians, Babylonians, and Phoenicians

Traditionally, the Fertile Crescent is considered to be the cradle of human civilization. The common denominator that is required in different specific cultures is the use of the human image with a dual religious and encomiastic purpose. Consequently, human representation follows a stereotyped canon devoid of a high degree of complexity. An example is the Flag of Ur (fig. 3), a wooden box belonging to the early Sumerian dynasties, depicting a series of figures, rendered in three registers, its aim being to celebrate the military successes of Ur. Interestingly, human representation disregards naturalistic proportions and details, the bodies being rendered disproportionately compared to the head which is much larger. It is also worth mentioning that, unlike the winners, the defeated enemies are portrayed outside the canon and are undressed, which demonstrates that the nude is a negative symbol.

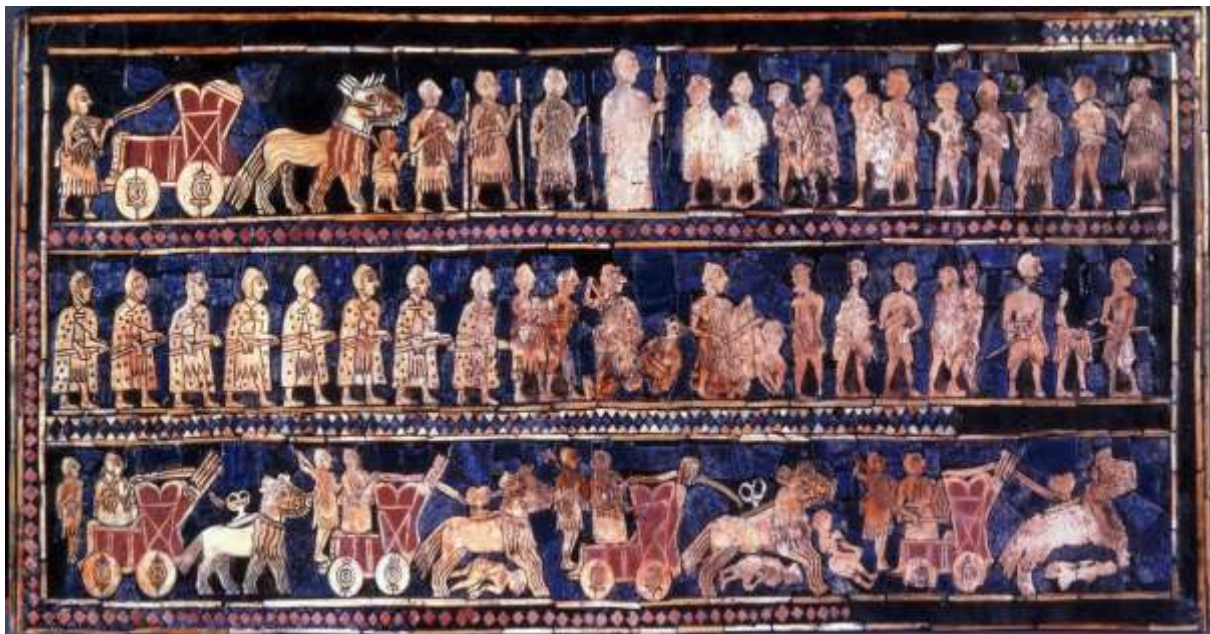


Fig. 3 – *The Flag of Ur* (British Museum, London)

In spite of stylistic differences, the establishment of the Akkadian empire by Sargon the Great does not bring about fundamental changes in the representation of body image and its purpose. On the contrary, during this period we can see an amalgamation of the two purposes attributed to the human image by the Sumerian civilization: the religious and the encomiastic.

The blending of the two is quite evident in the so-called Star of Naram-Sin (fig. 4), which describes the rise of the Akkadian empire under the rule of Naram-Sin. In this limestone-carved bas-relief, one can notice a greater attention to preserving proportions and to certain naturalistic details, even if body image stereotyping remains visible. The encomiastic purpose is clear: the king's image is almost double the size of the others, who represent the bodies of defeated enemy soldiers. At the same time, the king is remarkably aiming towards the sky, where a stylized sun is shining, a symbol of divinity. These elements allow us to identify a first association of the sovereign with divinity, which will be more poignantly expressed in the ancient Egypt civilization, where Pharaoh is considered to be divine and, therefore, is worshipped. Again, the nude is used with a negative connotation - according to the typical canon of earlier Sumerian art – and is assigned to enemies, while the triumphant king and his troops are rendered fully dressed and armed.



Fig. 4 - *Star of the Naram-Sin* (Louvre Museum, Paris)

Babylonian art does not bring substantial changes in body image reproduction. The encomiastico-religious purpose remains dominant, as the busts and stars of different sovereigns illustrate. Examples in this regard are the Star of Hammurabi - the most famous of the Babylonian kings - but also the Tablet of Shamash (or Tablet of the Sun God). Indeed, in Babylonian art, greater attention is paid to the reproduction of anatomical details, although the compositional canon remains fundamentally unchanged, i.e.: rendering the body and eye frontally, while the head and legs appear in profile.

Of the Mesopotamian civilizations, the Assyrian is the only one that systematically employed human body images. The Assyrians created a powerful military-centered empire. The encomiastic role of artistic production is thus much stronger compared to that of previous civilizations, art being intended to promote the public image of the empire and its sovereigns. Human figures show a much more emphasized balance between naturalistic representation and stylization. The exposed parts of the body are carefully rendered in anatomical details, although the nude continues to have negative connotations. The bas-relief depicting King Sargon II and a dignitary (fig. 5) is exemplary of the greater focus assigned to the anatomical element, including the attempt to reproduce the figure profile more accurately.



Fig. 5 – Bas-relief with Sargon II and a dignitary (British Museum, London)

3.2 Ancient Egypt

Ancient Egypt, usually regarded as the forerunner of Western civilization, should be more accurately considered the link between the Asian and European worlds. This role of turntable between East and West is demonstrated by its millennial history, in which Egypt had - not always peaceful - relations with the peoples of Mesopotamia, Palestine and Persia, as well as with the Greco-Roman culture that would prevail later in the Mediterranean basin.

The ancient Egyptian civilization had always paid special attention to the human body and, implicitly, to its symbolic use. The importance assigned to the human body stems from the increased consideration that the ancient Egyptians showed for body care both during life and after its physical death. Skilled in the medical art, which was based on pragmatic analysis of the mechanisms of physical functioning, the Egyptians were extremely cautious in terms of body care even and after death, as evidenced by the practice of embalming, despite its being applied only selectively, for certain social strata. It goes without saying, then, that the ancient Egyptians were among the few civilizations that developed a codified method of body representation, applied in both sculpture and painting. The method consists in drawing the human image inside a “grid” that functioned as a reference for the collocation of different anatomical parts (fig. 6 - The Egyptian canon and the system of representation, please see: <https://www.studiarapido.it/wp-content/uploads/2017/11/canone-egizio1.jpg>).

Even if the system indicates a special attention to body representation (in reality both for humans and animals, necessary to preserve the correct ratios), its use conducts to a marked rigidity of human representation. Naturalistic fidelity is sacrificed in favor of proportions. Therefore, body image is represented stereotypically, the head and limbs in profile view, and body in front view. Likewise, the clothes - always present in the Egyptian rendering - play an essential role in the pictorial composition, being used as a link between its different planes.

The special attention paid to rendering the human figure according to a mathematical canon actually illustrates the fundamental outlook of the ancient Egyptian civilization. The harmony governing the universe is most faithfully illustrated by numerical harmony. Starting from this principle, man had to be represented according to specific proportional standards, dictated precisely by the pictorial canon.

Notwithstanding the desire to rationalize the human image which was sublimated by a rigid canon tending towards stereotype, we must acknowledge the special attention for body characterization, as evident, for instance, in the wooden statue of Kaaper (fig. 7), in which the physiognomic details are extremely carefully rendered, as are other details such as the larger dimensions, which demonstrate a privileged social status, but also a sedentary job-related lifestyle.



Fig. 7 – Kaaper Statue (Egyptian Museum from Cairo)

To conclude, the ancient Egyptian civilization developed a rich intellectual and artistic reflection of the human body, a reflection that displays a wide range of aesthetic and symbolic values, meant to represent a landmark for neighboring civilizations, both from the Middle East and the Mediterranean basin.

4. The classical period

Even though the great ancient civilizations of the extra-European area show some interest in the body image, dictated by various purposes, man becomes the main subject of intellectual analysis with the great European civilizations. From ancient Greece to the Latin civilization, through the hardly inconsiderable experiences of Hellenism or Italic cultures, man and as such their body image becomes the central theme in all fields of knowledge, laying the foundations of a long-lasting outlook on humans, up to the reformulations of the modern world and especially of the “fractures of modernity” [6] that characterize it.

4.1 Classical Greek

Body image in the ancient Hellenic civilization, with its characteristics of beauty and harmony, is closely linked with human centrality. Thus, the anthropomorphism characteristic of Hellenic art derives from the rational outlook deeply inherent in this civilization. Transcendental and immanent reality - both natural and human - are reduced to an organic system, to a higher order in which all the elements integrate perfectly. By rendering the human figure, Hellenic culture seeks to symbolically and allegorically reflect the macrocosm of the universe within the human microcosm.

The Olympic deities, mythological heroes - humans and at the same time demigods - represent positive forces of reason and beauty, able to prevail against the irrational forces that are represented by different monstrous figures they confront with. The dialectical relationship between the beautiful and the rational on the one hand, and physical and irrational degeneration on the other underlines the value of absolute model which the ancient Greek civilization attributes to the human body.

More than in the case of the extra-European civilizations analyzed above, classical Greece brings a clear overlap between aesthetics and ethics, which is defined by the specific concept of

"kalokagathia" [7]. The term includes two adjectives, *kalos*, describing the outer perfection (i.e.: "beautiful"), and *agathos*, defining the inner perfection (which could be translated as "good", i.e.: moral). Indeed, both Greek art and literature - beginning with their earliest forms of manifestation - define the positive hero as beautiful and virtuous at the same time.

Suffice it to recall the portrayal of Tersites in one of the best-known passages from "Iliad", where he speaks against Agamemnon [8] and is confronted and reduced to silence by Odysseus, the positive hero who, of all the main characters in the Homeric novels represents the personification of reason. Tersites, as an anti-hero, becomes a *topos* of Hellenic art, literature, and of the classical culture in general, being still employed in the second century AD, as evidenced by an image carved on an Asia Minor sarcophagus, with Achilles, the positive hero, pulling him by the hair (fig. 8). It is noteworthy that, unlike in Mesopotamian or even ancient Egyptian civilizations, the hero is rendered naked in the above-mentioned example, while the anti-hero is fully clothed, which underlines that the Hellenic civilization completely overturns the relationship with nudity, the latter acquiring a positive value.



Fig. 8 – Aurelia Botania Demetria's sarcophagus (detail; Antalya Archaeological Museum, Turkey)

Not surprisingly, therefore, the Hellenic body image is highly idealized. The tendency towards abstraction is obvious in body shape description, in an attempt to transcend the limits of individuality and represent universal paradigms. Differently put, one clearly identifies the desire to synthesize two seemingly opposing tendencies: on the one hand, a faithful rendering of naturalistic aspects, and on the other, a mathematical and rational approach specific to philosophical thinking. Human nature reproduction is enriched by the Greek art, reaching a peak of realism during the classical period, thus overcoming the schematism and stylization specific to extra-European civilizations. Concomitantly, the naturalism specific to Hellenic art - and especially to sculpture - even if springing from a detailed observation of reality, strives to portray *the man*, not the individual.

A defining feature is given by the almost spasmodic quest for ideal proportions prescribed by standards which determine the relationship among the constitutive parts and between them and the whole. Among these canons, the one developed by Polycletus in the 5th century BC [9] represents a consecrated model. However, a certain level of abstraction is necessary in order to achieve overall harmony, and this is ensured by the mathematical relationship among the constitutive elements of the human body.

A further element central to the Ancient Greek body image is nudity, assigned to positive characters with an idealizing function. The heroic nude is attested ever since the earliest forms of human body representation developed by ancient Greeks. The unclad human body has an idealizing purpose, raising the human being to the level of a symbol of divine perfection. Initially,

however, this trait was attributed only to the male body. Thus, if conventionally *kouroi* ("boys"; fig. 9) are rendered unclad, their feminine equivalent called *korai* ("girls"; fig. 10) are dressed.



Fig. 9 – Kouros of New York (The Metropolitan Museum of Art, New York)



Fig. 10 – Kore Acropolis (Acropolis Museum, Athens)

Although characterized by a marked rigidity, the above-mentioned examples testify to a special care for anatomical details, unknown to other previous artistic experiences. Focal point on the naturalistic aspect, on the exact reproduction of human physiognomy, remains increased, reaching its climax with the 6th and 5th centuries BC sculpture, the epoch with an extremely high level of realism. Nonetheless, the role of the human image as a personification universe perfection is maintained, being expressed, for example, by the standardized and impersonal face.

Therefore, any representation of the human body that evinces a minimum of imperfection is simply disregarded. The ideal man of the Hellenic civilization is young, slender, athletic, healthy, with a harmoniously built body. Any negative element, any sign of old age, illness or flaw is discarded. This explains why classical Hellenic civilization did not leave any evidence of obesity or eating disorders [10].

Only later, starting with the 4th century BC did the representation of human beings start to diversify, alongside the cultural syncretism characteristic to Hellenistic period. Unlike the classical era, the Hellenistic period is characterized by a higher focus on realistic aspects. The overlap between ethics and aesthetics established throughout the Hellenic period becomes more subtle. As regards the quest for human figure realism, one can observe an array of topics, while other representations are added to the athletic figure of the young man, people of different ages, from childhood to old age, without neglecting previously considered taboos, such as those related to disease, physical or moral decay. Passions, vices, and body suffering are presented with extra pathos that expresses a unique drama, as shown by the famous "Laocoon and his sons" in the Vatican Museums (fig. 11).



Fig. 11 – *Laocoon and his sons* (Vatican Museums, Rome)

4.1 Etruscans and Romans

Human body idealization, specific to Hellenic culture, disappears within the cultural context of the Italic peninsula. Both in the Etruscan and the successive Roman cultural context, especially the head becomes the main human body focus.

As for the Etruscan civilization, largely still unknown in its defining elements due to the inability of deciphering its language, its focus on the head is obvious, and especially on facial expressions, compared to the rest of the body, the latter appearing much more stylized, without emphasizing the naturalistic element. This approach is evident, for instance, in the famous "Bride and Groom Sarcophagus" from Cerveteri (fig. 12), near Rome.



Fig. 12 – *Bride and Groom Sarcophagus* (Etruscan National Museum in Villa Giulia, Rome)

Most likely dating from the 6th century BC, the triclinic sarcophagus presents a pair of grooms, lying down, probably during a banquet. Its details allow certain interpretations related to: the privileged social status of the couple, parity between women and men (unlike in Latin culture, Etruscan women seemed to be accepted at banquets). In terms of body image, Etruscan sculptures evince little attention to physical detail. Bodies are rendered in an almost stylized pattern, while the organic structure specific to Hellenic culture disappears. Even if the head shows a more detailed presentation compared to the rest of the body, it is clear that no ideal model is sought in the Etruscan sculpture, nor is the individual characterization of a person pursued.

Etruscan civilization exerts a huge influence on the formation of successive Latin civilization, which depends on early Rome political, economic and cultural subservience (to note that, according to tradition, the last two kings of monarchical Rome are Etruscans). Head centrality in the body image representation is to be found in the Roman predilection for portraits. This representation, which favors the head to the detriment of the body, has religious grounds, and is particularly linked with the special Roman cult of the ancestors, but also with social and political elements, as according to a legislative act, the so-called "ius imaginum", only families able to demonstrate a long-standing origin are entitled to display their ancestors' images [11].

The head thus becomes the physical element representing and transmitting the person's deep personality, emphasizing their individuality. It can, therefore, be stated that Latin civilization overturned the Greek body image point of view. For the Greeks, body image was to define "man" (the general) to the detriment of "person" (the individual); with the Romans, this perspective is reversed and the portrait had to render the "person" (the individual), to the detriment of the "man" (the general). Therefore, whenever a human body is presented in its entirety, the body is used most often as a support for the head, the former being generally covered or clad.

Despite a stylistic influence that would be more evident during the imperial period, this evolution largely depends on a substantially different approach to life. The Hellenic speculative approach, which favors philosophical idealism, is contrasted with a pragmatic culture, which builds its entire universe of values on a more material and immanent basis. Rome prefers more pragmatic aspects rather than the great philosophical systems, concentrating on military structures and concrete elements: the army, architecture, and especially aqueducts, as well as the road system, the fundamental elements on which the eminence of Rome is built.

Certain changes began with the late Republican period and especially during the imperial period, when a larger influence of Greek art and culture is perceived and the body image begins

to be rendered according to the standardized Hellenistic canon. Thus, especially in the imperial portrait, the figure is reminiscent of statues of Greek origin, with focus on anatomical details. Oftentimes, the figure is represented naked and is characterized by the same harmony that tends to idealize the human body, specific to the Hellenic civilization. However, even in such cases, the image created by Roman artists continues to highlight realism, basically related to the face portrayal.

We might add that the fundamental differences between the Greek and Roman civilizations are shown from yet another perspective. Unlike the Greek world, which is culturally but not politically unified, Rome is a political power based on military success. Triumphs and victories are celebrated in works of a different nature, from historical writings, representing a specific strand of Latin literature (which, however, has a model in previous Greek historians), such as those by Tacitus, Suetonius or even Julius Caesar, to art works that include triumphal arches or narrated columns (e.g.: Trajan's Column; fig. 13).



Fig. 13 – Trajan's Column in Rome (detail)

Again, the difference in design in terms of body image between the Hellenic and Roman civilizations is clear. The Greeks favor mythological subjects, using the human body as the ideal model of universe harmony; the Romans, in turn, prefer historical subjects, with a higher degree of faithfulness in rendering the body image, having a robust encomiastic and propagandistic purpose.

Set against the classical era, a relevant change is manifested in the late imperial period. Oriental influences become more evident, especially with regard to the fundamental outlook on divine power and the emperor's nature. Although a certain tendency towards the sacralization of political power can be observed ever since the first centuries of our era, this element is defining in the mature period of the empire. Roman emperors, often of colossal dimensions, emphasize the symbolic value of the human figure. The body image is called to highlight the sacred aspect of majesty. The hieratic expressiveness of the human figure is given by an unnatural portrayal of the human body: the face loses its realistic features specific to classical sculptures, being represented frontally, as with the portraits and funerary masks of Egyptian pharaohs, the first examples of a deified sovereign. The colossal dimensions convey a sense of grandeur unknown to portrayals of preceding periods. The very rigidity of composition, which is in turn unnatural, highlights the special, almost divine nature of the emperor. The human figure thus acquires a new purpose, the human body becoming an instrument through which the exceptionality of the imperial power, like that of God, is foregrounded.

The continuous assertion of Christianity, which had become the official religion of the Empire during the reign of Theodosius I, yet tolerated since Constantine the Great, contributes to the consolidation of the symbolic value of the human figure. The very outlook on the human body undergoes significant changes. Partially moving away from the Roman view of the human body's nature and role, and rediscovering the Socratic-Platonic philosophical tradition of the human body as a prison for the soul [12], bodily representation loses the Greco-Roman naturalism in favor of a constant focus on the transcendent element. Thus, the human body begins to be rendered in a rather schematic and simplified way, whereas certain details, such as the eyes that mirror the soul, are brought into focus (fig. 14).



Fig. 14 – The colossal statue of Emperor Constantine I (Capitoline Museums, Rome)

Realism loss is functional to yet another aspect. Society that had been structuring since the late imperial period, and which would be consolidated in the early Middle Ages, is more rigid. The new, more closed social structure is manifested through the widespread employment of hierarchical proportions. Already visible in the tradition of the late empire, the new trends are consolidated and standardized in the Byzantine Empire, which continues Rome's imperial tradition. With the definitive establishment of Christianity, especially since the 5th century AD, body representation through sculpture is significantly limited. The new official religion of the empire, still uncertain of its status and applying the second commandment, intends to avoid any form of expression that might be reminiscent of pagan deities. Reliefs and especially mosaics become the main channels through which body image is represented; they are, nevertheless, fragmented representations, devoid of naturalism, conveying a conspicuous sense of the sacredness of power, which is both religious and political. Human body and the entire physical reality are sublimated, acquiring a more clearly visible symbolic meaning.

The ancient world is coming to an end, and the Middle Ages, with that defeat of the body masterfully described by the French medieval historian Jacques Le Goff, are looming on the horizon [13].

5. Middle Ages

The transition from antiquity to the Middle Ages represents a radical change of human body perception in the collective mentality. The Middle Ages are dominated and defined by religion and the issue of soul redemption, a paradigm shift that is evident in the general absence of nude

representations, maintained only partially and exclusively for religious themes, such as Jesus Christ's crucifixion, passages from Genesis, or martyr scenes of early saints. Likewise, the naked body is sometimes employed in scenes of judgment, but always to describe sinful bodies sentenced to eternal hell.

The Middle Ages deem the earthly, material side of man to be weak, vulnerable to temptation, and prone to sin. More than being the prison of the soul in the Platonic tradition, the Middle Ages viewed the human body as the source of evil, often associated with death and sin, which represents the death of the soul. The positive pattern of conduct is that which mortifies the body. Asceticism, through repentance and mortification, which presuppose abstinence from bodily pleasures, renunciation to worldly life, and proclamation of spirituality become the virtuous model of life.

Bodily representation, mortified and sacrificed in its hedonistic manifestations, finds, however, an opportunity of assertion in the representation of physical suffering. The images of saints and martyrs tortured and killed in atrocious torment are reminiscent of the soul's victory against the body. Emphasis on ascetic life determines a predilection for supple, emaciated bodies, in some cases close to anorexia. On the other hand, body fat is condemned sinful and tolerant of a reprehensible conduct [14]. Moreover, the medieval imaginary develops an actual myth of the monster, ubiquitous in the collective mind of the era, a symbol of fornication, sin, vice and, in short, of demonic power. These figures, common in all forms of medieval culture, testify to a mentality that is deeply tormented by soul damnation [15]. In a violent age, in which suffering and death are everyday realities, physical well-being becomes insignificant, even dangerous for soul salvation.

Along with the primacy of the transcendent over the immanent, Middle Ages social structure, in turn, influences body perception. Medieval society brings about the change in social structure that had began in late antiquity. In the West, the collapse of the Roman Empire leaves a power void that translates into the desintegration of power centers. Large international trade is shrinking, and new political centers - larger or smaller - develop self-referential and largely autarchic economic systems. The lack of a strong central authority, ceaseless wars, on which successive waves of migration superimpose, especially from the Central Asian steppes, lead to continuous insecurity, a kind of war of all against all ("bellum omnium contra omnes"), described centuries later by Thomas Hobbes as the main feature of the natural state preceding the foundation of society and political power [16].

Medieval society is thus organized according to a rigid pyramidal structure, in which social mobility is almost entirely impossible. The individual tends to disappear, being mistaken for the social status to which they belong. Subordination relations are clearly coded, each person occupying a well-defined place in society, highlighted by the privileges guaranteed by the social status. This rigidly organised social structure has a significant impact on the collective mentality, leading to a specific view of the world. Societal hierarchy determines a special material civilization that will mark the Europeans' consciousness for a long period of time. The Middle Ages' outlook on man is influenced by this rigid organization. Just as people are not equal on a social level, nor are they equal on the physical.

Thus, the right diet for a nobleman is considered inappropriate and even harmful for a peasant. Nobles overeat meat, especially game, while peasants are advised to eat food that grows closer to the ground [17]. In the medical art (as we cannot yet call it science), influenced from many points of view by the consecrated authority of classical tradition (especially Galen), human beings are considered to be different in their anatomical structure according to social status, manifesting specific diseases, but also having more or less effective treatments according to their social status [18]. Medieval culture reflects this social structure, characterized by a strong sense of differences and hierarchies [19]. Theological and legal thinking, philosophy, literature, art, recreational and leisure activities, customs and habits, in essence every aspect of the human existence is perceived according to this outlook.

The medieval vision of the body underwent the first changes in the twelfth century, especially in the Italian space, which, before others, opens up to the large international trade. Trade increase, the rediscovery of the old abandoned routes alongside new ones, open up a wider contact with other spaces of civilization. At the same time, new social strata are emerging. A new urban nobility is born, especially in the commercial and productive sector that will lead to the birth of the first nuclei of proto-merchant bourgeoisie.

The economic and social changes that occur after the year 1000 and consolidate at the beginning of the twelfth century lead to a real cultural revolution, not coincidentally called the "first renaissance" or "renaissance of the twelfth century" [20]. The new vision on man, and as such on the body image, results from the significant changes encountered in pictorial art. Even if the themes continue to be inspired by the religious tradition, human body reproduction changes significantly, gradually moving away from the established model of Byzantine origin.

To exemplify, this evolution can be observed from in the representation of the crucifixion. Starting with the twelfth century, the iconographic theme of the crucifixion known as "Christus Triumphans", which follows the Byzantine model with Jesus Christ still alive on the cross (fig. 15), gradually gives way to a new approach, called "Christus patiens", in which Jesus Christ is lying dead.



Fig. 15 – Alberto Sotio, Crucifix (Dome of Spoleto, 1187)

The image of human pain, of the suffering man (by no coincidence is this pictorial canon also termed "vir dolorum"), replaces the consecrated image of the Son of God who defeats pain and death. This transition from one model to the other has deep meanings, showing increased focus on the immanent aspects to the detriment of transcendent ones. Thus, the relationship between material and spiritual is rebalanced in favor of the former. With the new pictorial style, the medieval person begins to reconsider Jesus' human side, with which they can be more easily identify.

Being more human, Jesus - the Son of Man, as He defines Himself according to the Gospels - begins to be portrayed more realistically. The ideographic figure in the Eastern tradition, still visible for example in Cimabue's work [fig. 16], is progressively replaced by a new image, more perceptive to anatomical details, as shown by Giotto's work (fig. 17).



Fig. 16 – Cimabue, Crucifix (Santa Croce Church, Florence, 1287-1288)



Fig. 17 – Giotto, Crucifix (Church of Santa Maria Novella, Florence, 1290-1300)

Even though both examples fit into the new pictorial tradition, Cimabue's work is still dependent on the Byzantine tradition, while Giotto's work is much more realistic, with Jesus Christ's body lying much heavier on the cross, head and body sloping forward, palms curved, all of which rubs off a surplus of realism on the whole composition.

Religion, as well as the whole culture, is humanized, while the body image reverses to more natural forms of representation. Man gradually regain their importance, as evidenced not only by pictorial but also by literary evolution. The new literature, expressed in the vulgar language - that is, of the common man - has at its center the human figure. The French and Italian chivalric novels, the poems that present and represent the values of the court, the works

of Dante Alighieri, Francesco Petrarca, and Giovanni Bocaccio have man in their various components as major protagonist.

Even if Dante's "Commedia" - the absolute masterpiece of medieval literature - is a synthesis, a "summa" of medieval theology, the poem's protagonist is the man. In the Dante's work, which introduces Humanism successively, we gradually rediscover the classical view of the human body. Rediscovery of classical values results from the very beginning, by choosing Virgil as the poet's guide through the first two afterlife kingdoms. As in the classical outlook, beauty is given by physical and spiritual harmony and is manifested to its highest degree in Paradise, where Virgil is replaced by Beatrice, the ideal of Dante's love. On the other hand, physical defects, deformities, and obesity are used as allegories of sin, more obvious in Hell, more nuanced in Purgatory.

Humanism, only suggested in Dante's work, is fully manifested in Petrarca's literary work and, especially, in Bocaccio's. A historiographical tradition dating back to the nineteenth century views Humanism - and the Renaissance civilization that will develop from it - as the opposite, the radical negation of the Middle Ages [21]. We would be more accurate to regard Humanism - together with the Dutch historian Johan Huizinga - as the "Autumn of the Middle Ages" [22].

Even though springing from the tradition and cultural evolution of the Middle Ages, Humanism brings a radically different view of man and society, nature and history. Culture starts to become "secular", less attentive to spiritual aspects, freer from the restrictions imposed by tradition and authority, including religion. According to the philosophical tradition of classical antiquity, man again becomes the "measure of all things."

6. Humanism and the Renaissance

Humanistic culture applies an in-depth review of how the surrounding reality is viewed, analyzed and, consequently, reproduced. The center of the new intellectual construction is man, viewed in their entirety as body and soul. The origin of the changes that are fully manifested starting with the fifteenth century can be found in the rediscovery of the classical sources of Greco-Roman civilization, but it began in the last centuries of the Middle Ages. The rediscovery of the classical tradition, which initially occurs in Italy, where ancient vestiges are more visible and where the works of great authors – especially Latin – have been preserved in greater numbers, has at first a moral connotation, as a desire to bring back to life the virtues of the ancients. Moving away from the Christian tradition that places the golden age of mankind in a distant future, when Jesus Christ will return to earth to establish His one thousand year kingdom, humanists idealize the past, seen as a model and a source of inspiration.

Man's centrality in the cultural construction of Humanism translates into paying more attention to their body image. In this sense, an essential passage is the rediscovery of perspective, which is already found in some medieval works, for example those by Giotto, but which is studied and codified by humanist artists. Perspective allows the rational representation of space, regarded now as a scene for human action. Thus, a significant change occurs, namely from the schematic proportions of the human body, specific to the Middle Ages, to forms based on an empirical analysis. Man truly becomes the measure of all things, the proportions of the human body being used in architecture to define harmony and, consequently, beauty. The human body thus becomes a system of measurement, a paradigm of reference, as demonstrated by Leonardo da Vinci's famous Vitruvian Man (fig. 18).



Fig. 18 – Leonardo da Vinci, *The Vitruvian Man* (Galleries of the Academy, Venice, ca. 1490)

The changes are evident in the way the human image is reproduced. Moving away from the previous tradition, at the beginning of the 15th century Masaccio produces human forms that have individual, concrete characteristics, capable of expressing perennial feelings. The landscape and architectural context in which his figures are inscribed gives them an accentuated immanent character, a distinct historical character. Man is no longer sublimated, but is rendered in their material aspect (fig. 19).



Fig. 19 – Masaccio, *Adam and Eve Banished from Paradise* (Brancaccio Chapel, Santa Maria del Carmine Church, Florence, 1424-1425)

The reaffirmation of the centrality of man in the universe and the rediscovery of classical values bring back to fashion the sculpture of the human image. Already with Donatello's work, the human body loses some of the allegorical meanings that the Middle Ages attributed to it. The individualization of the human figure reintroduces the fashion of the portrait both in sculpture (the model is taken mainly from the Roman tradition, easily accessible due to the available vestiges), and in painting. Regardless of the form of expression, however, humanistic

culture aims to reproduce an image of man as realistically as possible. The proportions, the movements, the context are rendered in a rigorous way.

In order to achieve this result, man begins to be looked at in all their aspects, including the inner ones. The anatomical structure of man is studied in detail, often defying the prohibitions imposed by church authorities. The attention for the anatomical study, together with the rediscovery of the Greco-Roman values and tradition, favors the rediscovery of the nude as a means of expressing the humanist vision on man and, implicitly, on the world.

The highest artistic accomplishment, when it comes to the nude, ubiquitous in the reproduction of the body image during Humanism and the Renaissance, can be found in Michelangelo's work. The Florentine artist, however, is a new turning point in the way man is represented. In the previous canons, the human body is still idealized. This is the case in Donatello's sculpture or in Sandro Botticelli's painting, which, among other things, reintroduces the female nude in some mythological compositions (fig. 20), a later sign of the secularization of thought that is one of the fundamental characteristics of Renaissance civilization.

Michelangelo's sculpture has some new features, which derive from his philosophical vision, influenced by the Neoplatonic movement of Marsilio Ficino and Pico della Mirandola, as well as the desire to achieve a congruity between classical and Christian values. If man is the image of God, and if human beauty is the image of divine perfection, the bodily image of man is only a channel through which a superior and transcendent beauty is expressed. For Michelangelo, sculpture means the release of the spirit that is contained in every physical element; through the sculptural act, the transition from material to spiritual takes place, which is essentially the meaning of "non finito" characteristic of Michelangelo's work, already visible in the famous Vatican "Pietà" (Fig. 21), and obviously in the so-called "Pietà Rondanini" in Florence (Fig. 22).



Fig. 20 – Sandro Botticelli, *The Birth of Venus* (Uffizi Gallery, Florence, ca. 1485)



Fig. 21 – Michelangelo Buonarroti, *The Pietà* (St. Peter's Basilica, The Vatican, 1497-1499)



Fig. 22 – Michelangelo Buonarroti, *Pietà Rondanini* (Sforzesco Castle, Milan, 1564)

With *Pietà Rondanini* the contrast between matter and spirit becomes obvious. It is no coincidence, then, that this work can be considered the final moment of the Italian Renaissance. The labor of an age, constantly troubled by conflicting materialistic and spiritual tendencies, reaches its peak. But if it is true that, to a certain extent, the Italian Renaissance ends with Michelangelo, it continues and develops in the rest of Europe, where it acquires a more

pragmatic purpose, related to the profound economic and social changes that occur in the period of early modernity.

7. Mannerism and the Baroque

The representation of the human figure during the sixteenth century has its origins in the earlier tradition of the Renaissance, but it is strongly influenced by religious conflicts generated by the assertion of the Protestant Reformation and the crisis of the universalism of the Catholic Church. Under the impetus of the fundamental changes that appear throughout the century, the certainties of Humanism, the anthropocentric vision of reality on which it is built, the equivalence between nature and reason, the idea of man as the artisan of their own future, reaches a critical point. The effects of this crisis are strongly felt in the way the human body is viewed and interpreted. From the certainties derived from abiding to the rules of proportion, we move to the exception, to non-conformity, to arbitrariness. The human body appears now deformed, there appear images that change the body model, following an imaginary picture which refuses to conform to the natural image, but rather to provide the vision of an anxious world.

Body image is redefined by new canons, and the desire to arouse astonishment – which will become the defining feature of the Baroque – produces new forms of expression, in which the grotesque, the extraordinary, the illusory are used systematically. The physical reality is distorted, both in its natural aspects, as it happens in Bomarzo [23] (fig. 23), and in the human ones, as in the case of Giuseppe Arcimboldo (fig. 24).



Fig. 23 – *Hercules and Cacus* (The Park of Monsters, Bomarzo, Italy)



Fig. 24 – Giuseppe Arcimboldo, Rudolf II, represented as god Vertumnus (Skokloster Castle, Stockholm, 1591)

The naturalistic interpretation of man offered by Caravaggio, the most exemplary representative of Baroque painting, is completely different. The human body is restored to its true size. Body image is again used symbolically. By employing the chiaroscuro technique, Caravaggio highlights the human body, flooded with light, in the fullness of its actions. It is a more realistic image, less idealized compared to the Renaissance tradition. Man is a symbol of the human condition. Therefore, the chosen topics are among the most varied.

There is, of course, a local influence. In Italy, dominated by the Christian values reaffirmed by the post-Tridentine Counter-Reformation Church, the privileged themes are of a sacred nature, even if the figures are rendered with marked realism, which does not neglect the less aesthetic aspects. This is the case, for example, with the painting of Caravaggio and his successors (Fig. 25).



Fig. 25 – Caravaggio, *Judith Beheading Holofernes* (Barberini Palace, Rome, 1598)

On the Iberian peninsula, the naturalistic aspect is emphasized in the work of Diego Velázquez, who reproduces human figures without discrimination. Kings and nobles, children, elders, jesters and dwarfs are portrayed without restraint, depicting a composite humanity. However, the search for the feeling of amazement persists, as demonstrated for example by the famous opera "Las meninas" (fig. 26), made with a degree of exasperated realism that leads the viewer to wonder where reality ends and fiction begins.

The Nordic world, on the other hand, is more affected by profound economic and social changes. The seventeenth century, defined as a century of crisis [24], means in some parts of Europe the assertion of capitalism and the emergence of the bourgeoisie. The rise of the bourgeoisie is felt especially in the Netherlands, where the assertion of the Reformation - which gains political value with the War of Independence - frees culture from religious restrictions. Calvinist Protestantism is contrary to religious images, which favors secular themes in the reproduction of the human image. Scenes from everyday life, family life, become the privileged subjects that allow an analysis of the human condition from a naturalistic perspective, but loaded with emotional significance that penetrates the depths of the human soul. Attention to the naturalistic details of the human body is highlighted by one of the masterpieces of the Dutch Baroque, Rembrandt's "The Anatomy Lesson" (fig. 27), a true manifesto of the continuous tension between immanence and transcendence, between the material and immaterial realms, which defines the whole baroque movement.



Fig. 26 – Diego Velázquez, *Las Meninas* (The Prado Museum, Madrid, ca. 1656)



Fig. 27 – Rembrandt, *The Anatomy Lesson of Doctor Nicolaes Tulp* (Mauritshuis, The Hague, 1632)

Despite the rediscovery of the sacred aspect of existence, nature, and with it man, remain central. The problem of material existence, of the passage of time are deeply felt by the Baroque culture, as evidenced by the predilection of this movement for macabre images, which are reminiscent of the transient nature of human existence. "Memento mori" from the medieval period is rediscovered by an era characterized by violence, wars, famines, epidemics. A century of gold, but also a century of steel, constantly raises the question of the transient nature of the human being, as illustrated by the spasmodic use of the human skeleton as a decorative element.

This view of the human body will remain almost unchanged until the middle of the eighteenth century. The assertion of Enlightenment culture, the first true cultural ideology that marks the emergence of full modernity and paves the way for contemporaneity. Built on the cult of human reason, the Enlightenment will deal almost exclusively with the material side of existence, affirming a fully secular perspective of culture and existence.

8. Contemporary age

The eighteenth century is a century of radical changes. It is a century of revolutions, even if the philosophical approach of the Enlightenment, all built around the myth of human reason, prefers reformist solutions. The economic changes are revolutionary, accompanied by the emergence of the new capitalist model. And, after the economic revolution, at the end of the century, the propitious moment for the political revolution arrives, which, with the Great French Revolution, destroys not only a political system – the absolutist one of the old regime – but also the society stratified by social status. It is the moment when the bourgeoisie fully asserts its primacy, at first economically, then politically. These changes occur against a cultural background dominated by the new Enlightenment, defined by Immanuel Kant as "man's emergence from his self-imposed immaturity" [25]. The self-imposed immaturity is given by a culture in which false beliefs, superstitions that are not justified by a rational analysis of existence predominate. Human reason, the only instance capable of enlightening human existence, is elevated to the rank of divinity. The centrality of man is categorically reaffirmed. Man is the center of the universe, the only creator of their own future. The Enlightenment vision of the world is determined by the full confidence in man's creative power, which, freed from the constraints of obscurantism, will generate endless progress.

The image of the man projected by the Enlightenment culture is therefore as positive as possible, and initially this belief leads to the rediscovery of the classical model, which manifests itself in neoclassical tendencies. The human body, realistically reproduced but idealized, is used to convey the secular, rational, didactic character of the Enlightenment to its contemporaries. However, the choice of the classical model for defining body image fulfills another function, that of critique of the system of the old regime, represented by the baroque culture. The worldview promoted by the Enlightenment is thus expressed by order, harmony, even the rigidity of human bodies which denotes the absolute control of reason over body, as happens, for example, in Jacques-Louis David's "Oath of the Horatii" (fig. 28).



Fig. 28 – Jacques-Louis David, *Oath of the Horatii* (The Louvre Museum, Paris, 1785)

On the other hand, the centrality of man, and especially of the rational aspect, in the cultural construction of the epoch cannot completely neglect the subjective and emotional factors. Already in the last neoclassical representations, and especially with the affirmation of pre-romantic tendencies, man begins to be seen as a whole, and the human body begins to represent the psychological aspects as well, which will become more evident in Romanticism. A true manifesto of this new vision is Francisco Goya's "The Sleep of Reason" (fig. 29), which, at the turn of the nineteenth century, produces a synthesis between the two conceptions, linking reason and feeling.



Fig. 29 – Francisco Goya, *The Sleep of Reason Produces Monsters* (The Prado Museum, Madrid, ca. 1799)

The nineteenth century is, therefore, more attentive to the inner dimension of man, to his feelings, to the individualistic aspects, but also to the social connotations. The human image is freed from the restrictions imposed by a certain culture. Every aspect of human existence becomes worthy of reproduction. The social connotation, of denunciation, attributed to art by the Enlightenment is preserved by the Romantics. The great problems of the contemporary world, caused by the radical changes imposed especially by the industrial revolution, are denounced, and the body image becomes the main tool used. In literature, the great social problems are expressed through distorted, sometimes grotesque, images described by Honoré de Balzac in the cycle "La Comédie Humaine" [26]. In painting, the great social problems of the contemporary world are described by appealing to the body image, especially of the marginalized. This is the case, for example, of Edgar Degas's famous "The Absinthe Drinker" (fig. 30), in which human images, distorted by alcoholism, in fact denounce the alienation produced by the revolutionary changes of contemporary society. This is also the case of prostitutes in Parisian brothels, portrayed by Henri de Toulouse-Lautrec (fig. 31), who is also disabled and, as such, marginal, despite his aristocratic origins. It is, finally, the case of Vincent Van Gogh, who, through his self-portraits denounces, willingly or not, the madness that affects contemporary man (fig. 32).



Fig. 30 – Edgar Degas, *The Absinthe Drinker* (The Musée d'Orsay, Paris, 1875-1876)



Fig. 31 – Henri de Toulouse-Lautrec, *La Toilette* (The Musée d'Orsay, Paris, 1889)

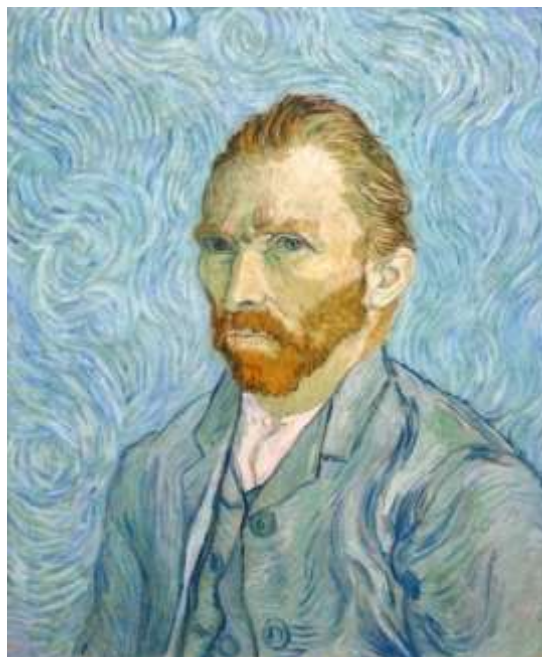


Fig. 32 – Vincent Van Gogh, *Self-portrait* (The Musée d'Orsay, Paris, 1889)

At the turn of the 19th century and the beginning of the 20th, the modernization process opened at the end of the Middle Ages reaches its peak. The technological development at the end of the 19th century determines a new stage of the Industrial Revolution, also called the Technological Revolution. The new technologies facilitate the development of new production systems (e.g.: the production chain introduced by Henry Ford in his factories), allowing for increased productivity and standardization of the finished product. The spirit of capitalism asserts itself definitively, transforming any human activity into a product capable of generating

profit. The effects of these changes are ambivalent. There is no doubt that they have had positive consequences. So, from an economic point of view, the world is experiencing unprecedented economic development. New techniques and technologies allow higher productivity not only in the industrial field, but also in agriculture. The increasing availability of food resources, together with advances in the scientific field, allow a significant improvement in living conditions. The mortality rate is gradually decreasing, thanks to new knowledge in the medical field, but also to some public health policies. International trade increases and innovations in the transportation industry reduce distances. The new communication systems – the telegraph, the telephone, the radio, the cinema – allow for the easier flow of information and ideas. The use of electricity massively changes habits related to everyday life. The mentality of modern man, already oriented in a progressive sense, changes in the sense of mythologizing progress, and the golden age of mankind, which the Renaissance placed in the classical Greco-Roman past whereas the Romanticism of the first half of the 19th century in the Christian Middle Ages, is moved to an equally mythicized future.

However, the progress introduced by the historical evolution of the late 19th century also brings some problematic aspects. From the economic point of view, the positive effects are doubled by the appearance of cyclical crises, specific to the capitalist system, with moments of economic depression of greater or lesser intensity (the best known, due to the effects produced, being the Great Depression of 1929). The social structure undergoes radical changes. The development of the industry attracts a large migratory phenomenon, especially from the countryside to the large industrial centers. City sizes increase and new neighborhoods appear - especially around industries - most of the time lacking any kind of infrastructure. The new neighbourhoods housing factory workers are usually characterized by a high degree of promiscuity, often becoming foci of infection. Unemployment, exploitation, violence, crime, prostitution, alcoholism become endemic phenomena. Contemporary man begins to suffer from new disorders while uprooting and alienation become typical features of the new social masses, deprived of those elements of stability offered by tradition and old customs, marginalized by the new mass society.

As Paul Trachtman admits: «In the years before World War I, Europe appeared to be losing its hold on reality. Einstein's universe seemed like science fiction, Freud's theories put reason in the grip of the unconscious and Marx's Communism aimed to turn society upside down, with the proletariat on top» [27]. It is not surprising then that man begins to change the way he/she perceives, and consequently reproduces the body image.

With Modernism, new means of expression assert themselves. Fauvism, expressionism, cubism highlight the subjective aspect at the expense of the given objective. Cubism is probably the best-known art movement of the Modernist era, the central aims of Cubists being: «(...) to discard the conventions of the past to merely mimic nature and to start in a new vein to highlight the flat dimensionality of the canvas» [28]

New technological inventions, photography and cinematography change the way in which the human body is represented and, as such, the body image projected by them. In particular, photography is considered, in its beginnings and in full agreement with the dominant positivist attitude, as a means by which the self-image can be reproduced with exactitude. This belief will be transmitted to the emerging cinema, which in many ways is an evolution of photography. It will not be long, however, and under the influence of the psychoanalytic movement of Freudian origin, that the subjectivism of the images is reaffirmed. The ability to denounce great social and individual problems, opened by the contemporary world, attributed to the corporal image in the 19th century, is reflected in the artistic production at the beginning of the 20th century.

Thus, the feelings of alienation and uselessness experienced by the contemporary man after the mechanization of production is masterfully portrayed by Charlie Chaplin in the film "Modern Times" from 1936, in which the protagonist's body is crushed by the mechanical device he is called to manoeuvre (fig. 33).



Fig. 33 – Charlie Chaplin, *Modern Times* (SUA, 1936)

In our opinion, the paradigmatic image of the profound despair that contemporary man faces is once again given by painting, and belongs to the expressionist movement. Edvard Munch's "The Scream" (fig. 34) contains all the drama of contemporary man. The human body, distorted in its physical elements, anonymized in its physiognomy, is exemplary for the abyss of despair in which contemporary man has collapsed.



Fig. 34 – Edvard Munch, *The Scream* (The National Museum of Art, Architecture, and Design, Oslo, 1893)

At the same time, the assertion of economic primacy in all aspects of life leads to the need to build a new image. Economic considerations bring to the fore a body image that responds to new needs. Body image begins to be built according to criteria that correspond to the needs of the industrial society. The body models that are promoted have supple, athletic, vigorous features, able to guarantee an increased productive efficiency. The concept of beauty loses its moral connotations – even if the standards of beauty continue to convey a message similar to that of "kalokagathia" specific to the civilization of ancient Greece – and rather corresponds to

principles of economic efficiency. The new concept of beauty, typical of contemporary society, is expressed in its purest form by a new social category, the "diva":



Fig. 35 – Marilyn Diptych (Tate Gallery, London 1962)

Man becomes part of the system of production, with a double function – as a means of production and as a consumer, becoming a slave to the society to which he belongs [29]. The body image thus becomes a means of affirming the worldview developed by the consumerist society, which promotes a false, unachievable image. The picture created by the Italian photographer Oliviero Toscani, famous for his advertising campaigns in which he openly criticises all the miseries of the contemporary world, denounces the problem of anorexia; for it, he uses as a model a young woman affected by this eating disorder (fig. 35).



Fig. 36 – Oliviero Toscani, *No Anorexia* (awareness campaign, 2007)

9. Conclusion

At the end of this long chronological excursus, it has become evident that the image of the human body represents an archetype. Every society, every culture, regardless of the historical epoch or the cultural space in which it was formed, has built a self-image that was used as a means to express its world outlook. The contemporary era is no exception, as body image has become a means, a vector through which its fundamental values are promoted and affirmed. The present approach, therefore, becomes relevant in order to understand and explain the attitude of the current culture towards the two realities it faces, i.e.: obesity and anorexia, phenomena not only individual, but with a heavy social load. Thus, their understanding, including from a social and cultural perspective, becomes important for any subsequent intervention and effective treatment.

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**AREA II – HUMANITIES PERSPECTIVE ON OBESITY AND EATING
DISORDERS (EDs)**

1. Humanities perspective on obesity and eating disorders (EDs) in the Czech Republic

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Abstract: *There are two aims of this text: the first is to look at the current data regarding abnormal weight and eating disorders in the Czech Republic and show the tendencies in population measures. The second is to give an overview of the public debate on body image and eating disorders and how it is presented in the media and the public space. Two studies are presented: one among healthcare professionals and the other among adolescents and young adults. Two podcasts dealing with body image and eating disorders, one from women's and the second from men's perspective, serve as an illustration of the trends in the Czech society and the debate this topic raises among women and men.*

1.1 Current data

This section offers in brief the current data on the prevalence of overweight and obese people in the Czech Republic and the trends that are captured in statistical data. It is important to bear these numbers and trends in mind when discussing the impact of digital media on society threatened with an epidemic of obesity and rising number of people with eating disorders. More detailed numbers are included in Area 3 of the Handbook.

The following data come from the European Health Survey (EHIS) conducted in 2018-2020 that included people over 15 years of age. 18.5 % of Czechs suffer from obesity, i.e. 20 % men and 18 % of women from the entire population. 47 % of men and 33% of women are slightly overweight. The average value of BMI (body mass index) of the inhabitants of the Czech Republic reached 25.2, which is just above the upper limit of a normal healthy weight. This value is similar to Slovenia for instance, but the rate of obesity is higher – both among women and men.

Weight is related to healthy movement and a balanced diet. Leisure-time physical activities such as sports and fitness, among others, have an effect on the condition of each of us. The results of the sample survey were alarming in this regard: 40% of Czech adults do not engage in any sports or recreational physical activity. Physical movement is closer to men, who spend an average of 3.6 hours a week, while women spend only 3.2 hours. Women care more about diet than exercise. The positive thing is that more than 21% of women eat fruit two or more times a day. Only 12% of men enjoy it to such an extent. By a large margin, women also outstrip men in the consumption of vegetables.

In the European context, in 2014 Czech Republic ranked 7th place among European countries with 18.8 % obese population.[1] In the 2019 statistics, the share of overweight population (BMI higher than 25) reached 60 % of the Czech population in the 18+ age range and the country ranked 3rd among other European countries.[2] This means that six out of ten people are overweight and every fifth one suffers from some degree of obesity (BMI > 30).

What is interesting is that for women it is very closely related to the level of education achieved, or to the socio-economic background, which is linked to education.[3] There is a 20 pp. difference between Czech female university students and women with a basic education. 38 % of women with a university degree are overweight, while 58 % of women with a basic education are overweight. The data clearly indicate there is a negative correlation between the ISCED level

reached and the percentage of overweight people. That is the reason why education and awareness are necessary, despite the general belief that women pay more attention to body weight than men do. In men, there is no clear connection between educational attainment and overweight, and differences in the prevalence of overweight depending on educational attainment are generally much smaller than in women.

The most alarming statistics show an overall increase in child obesity. While in 1991, 7 % of Czech children were overweight and 3 % were considered obese, in 2001, there were 9 % overweight and 6 % obese children. This means the number doubled over a decade. [4] Looking at more recent data from 2014, there has been a two-fold increase of overweight people in the Czech Republic within the entire population spectrum since 1991. It proves that the number of obese children has doubled in the Czech child population. Every fourth child was overweight in childhood and every seventh child was obese. [5] There is sufficient evidence that the age of developing obesity plays a key role. A higher BMI at the age of adolescence is strongly linked to developing obesity-related health issues at a later age. A higher BMI in early adulthood (age 25-40) brings an increased risk of complication compared to a higher BMI at a later age. In other words, the earlier people develop obesity, the higher the risk and severity of resulting complications.

The 20-year trend in number of overweight children, statistically tested by the Armitage trend test, increased significantly in both girls and boys. The exception was five-year-old children with a stable prevalence of overweight/obesity in the past twenty years, between 2011 and 2016 it even decreased. The tendencies vary slightly between other age groups and years, but the overall trend is alarming. In adolescents (17 years old), the occurrence of overweight/obesity has been monitored since 2001, a significant increase being observed between 2006 and 2011 [6]. Other studies confirm the disturbing numbers [7] and the conclusion is that the increasing trend from recent years among children has been accelerated by Covid lockdowns, lack of sport and inappropriate eating habit. Table 1 shows the trend in children (up to the age of 18), the percentage being related to the entire population. Sample size 4386 children.

year	1991	1996	2001	2006	2011	2016	2021
overweight	7.0 %	5.3 %	5.8 %	7.2 %	7.8 %	7.5 %	9.6 %
obese	3.0 %	5.5 %	7.4 %	7.8 %	10.2 %	10.3 %	16.4 %

Table 1 [8].

To be fair, it needs to be said that the prevalence of obesity is rising significantly also in the age category 50-69 years of age.[9] The Czech Republic shows a rapid increase in cases of obesity between 2007 and 2015 (e.g., among men, the number rose from 23 % in 2007 to 35 % in 2015). These larger numbers also grew faster compared to other European countries. Studies do not answer the important question of what exactly the cause of the trend described above is. Is this a consequence of economic growth? Is there a shift in lifestyle or is there a trend towards less physical activity? Is there a shift in the social norm regarding obesity?

Data about eating disorders are more difficult to find. Unlike the anthropometric records, eating disorders are recorded under diagnostic codes (6B80-6B8Z) and fall into a category of health diseases. In 2017, there were 3,731 outpatients treated with ED's and 454 were hospitalized in psychiatric wards. In 2020, a total of 5,167 people were treated for ED's in outpatient clinics and there were 606 hospitalizations. A ten-year increase in the number of cases is about 15 %. The number of patients increased the most among adolescents aged 15-17. In 2020, 1,093 of them were treated, which is an astonishing 89 % more than in 2010. Most patients, 87 %, were women and girls. A high mortality exceeds 10 %. Patients die at an average age of 25. Mortality is twice that of other psychiatric diagnoses and ten times higher than that of the general population. The risk of suicide increases up to 200 times. The average duration of the disease is 6 years, but a third of patients have a chronic course lasting 20 to 30 years until premature death. In a survey taken in 2011 and 2017, the highest number of hospitalized cases

was recorded among young people aged 15-17, but the most rapid increase between 2011 and 2017 was notable in age category 10-14.[10]

It was also reported that the covid pandemic had a negative effect on the number of new cases: the time spent at home, with limited physical activity, where real social isolation was compensated on social networks and blogs cause more young people to start comparing themselves with film stars and media celebrities.

1.2 The beauty cult

In developed Western societies, success, happiness, youth and social acceptance are generally associated with thinness. Being overweight means physical unattractiveness, laziness, lack of will and control.[11] For women, it is ideal to be slim and beautiful. For men, this means a defined muscular body. Non-conformity with these ideals has a number of negative social consequences. Many people are not genetically predisposed to slimness, so they have to work towards it with diet and exercise. Today's society treats those who are not beautiful and thin with prejudice, as Sarah Grogan's research shows. They have shown that negative stereotypes such as dissatisfaction, low self-esteem, laziness, resentment, no self-control, etc. are assigned to overweight people. Obese people are therefore stigmatized in many cases, and the stigma of obesity is among the least tolerated by the rest of society. The cult of thinness literally moves the whole world.

It is therefore not surprising that today's population focuses excessively on their appearance and puts aside their other goals, such as education, careers, building a family, relationships with friends, etc. Unfortunately, the emphasis is often placed on a person's good looks rather than on his/her character and their individuality. Instead of looking around at what the world looks like, we are only interested in what we look like to the world. The body is taken as the most visible part of our identity, and as such, through so-called body regimes (primarily in the area of food consumption and health), it becomes part of a reflexive life project. It thus becomes open to active transformation, especially through what the consumer market offers. And since consumers are seen as having all the means at their disposal to create a successful, i.e., near-ideal, body, if they do not achieve this goal, they are personally responsible for such a lack. The body thus became an indicator of the level of self-control (seen as an indicator of moral qualities) of its owner. It is taken as the most valuable thing we have, as an object of prestige and for evaluation by others, as a means of communication and an object of necessary care.

The main negative consequences of the cult of thinness have been proven to include eating disorders, which threaten young individuals across social classes, regardless of education and place of residence. Developed Western countries are currently facing an epidemic of problems related to media propaganda of unattainable thinness.

The main paradox of the current beauty ideal is that the idealized figure portrayed by the media has been steadily slimmer since the advent of the fashion model era, while the population is fattening due to the civilisation diseases, fast food, social pressures, and unhealthy diets. The spread of related problems is also caused by the much greater availability of media and the facilitation of communication via the Internet, from which thousands of articles and photos of emaciated celebrities pour in on us every day. Unfortunately, a lot of people do not realize that models, actresses, actors and singers spend several hours a day in the gym and are on strict diets just to stay slim and look good on screen. Behind their appearance stands a whole team of hairdressers, make-up artists, fashion designers, personal fitness trainers, nutritionists, and their perfect photos are made by a skilled graphic artist who is good at retouching. For the average person, today's ideal of beauty is unattainable. Contemporary society is constantly chasing this ideal. The void created by the gap between the ideal and reality frequently causes low self-esteem, feelings of inferiority, depression and eating disorders.

1.3 The impact of digital technology

The influence of digital technologies, especially on the younger generation, is constantly increasing. Access to a wide range of contents can, especially in individuals with increased sensitivity and susceptibility to external influences, cause an eating disorder in connection with the increasingly discussed cult of thinness. Many studies have confirmed that individuals with increased susceptibility to these diseases are very sensitive to idealized images of the human body, online media and communities that try to present this ideal as a lifestyle. However, in connection with this negative impact, there are also other studies investigating the possibility of treating or mitigating eating disorders, precisely through digital media, e.g., applications, or self-treatment programs.

Professionals' view

In a study from 2018 called *Professionals' Reflections About the Impact of Digital Technologies on Eating Disorders*, authors investigated how the influence of digital technologies reflects on patients suffering from one of the eating disorders.[11] The authors Michal Čevelíček, Martina Šmahelová and David Šmahel conducted 30 interviews with Czech experts who regularly work with clients suffering from eating disorders. The qualitative analysis was divided into 4 areas. It discusses the attributes of technology that have a direct impact on patients suffering from eating disorders, as well as the specific personality characteristics of these patients that influence their interaction with digital technologies. Last but not least, the study focuses on both the risks and the benefits of the use of digital technologies by psychologically unbalanced individuals. The results are discussed in relation to Rodgers' theoretical model explaining the relationships between eating disorders and the use of digital technologies.[13]

Rodgers describes the relationship between the Internet, social networks, body image and eating disorders using a combination of five theories: sociocultural, social identity, satisfaction, impression and personal objectification. This model describes three levels of interactions with the Internet and social media. The first level describes networks and social media as "non-participatory", meaning that they do not interact with their users in any way. From this point of view, eating disorders may be caused by the general prevalence of the cult of thinness and the possibility of comparing personal body presentations.

The second level describes networks, on the other hand, as a space for communication and interaction with others. The presentation of one's own body is influenced and partly formed by the expression of users who subscribe to the same content or operate on the same media platform. Such comments force the user to constantly control and monitor their own body in connection with the ideal of beauty, in this case the cult of thinness. The frequent outcome of these conditions is increased dissatisfaction with one's own body and an increase in symptoms of eating disorders. These direct comments and expressions force the user to portray their ideal self, which, however, in many cases is visually different from the true self, and thus this ideal cannot be achieved anywhere else than in the online world or environment. This comparison of the ideal and the real self causes people to feel tension and anxiety, mainly because the real appearance is considered insufficiently attractive. Attempts to achieve that ideal are carried out in the form of strict diets and excessive physical activity, which in many cases again end in an eating disorder.

The third level describes the Internet as a tool thanks to which specific groups concerned primarily with weight and body image can better communicate with other users and modify the content presented. Such groups can invite other specific groups to subscribe to the content, e.g., so-called pro-ana (a term denoting content created by individuals with anorexia nervosa) or pro-mia (content created by and for individuals with bulimia nervosa), bloggers and others. Such an online environment is ideal for strengthening and confirming ideas and opinions about one's physical appearance, thanks to regular communication between individual users. Sharing a

similar life attitude will create an illusion of approval and acceptance from the outside world, which can eventually lead to confirmation and acceptance of the eating disorder as part of one's identity.

Studies prove that too frequent observation of idealized depictions of human figures increases aggression, arouses a feeling of anger and dissatisfaction and, last but not least, significantly reduces self-confidence. Even more susceptible are specific groups of people suffering from being overweight or obese, people looking for an ideal of beauty in the cult of thinness and individuals with low self-esteem. This sample shows both mild and significant increases in depressive moods and body dissatisfaction, primarily due to frequent viewing of content that depicts extreme thinness. Generally speaking, through the Internet and social networks, people have the opportunity to directly compare themselves and thus increase the risk of illness to themselves and others.

As already mentioned above, technology may not only have a negative effect on the development and treatment of similar diseases. Studies show that using technology can reduce the sense of shame that people with eating disorders often experience. It also increases access to various forms of help, searching for and possibly addressing the affected. The use of technologies and modern applications aimed at self-help positively affects the treatment and is thus considered a welcome added value and activity on the part of the patient. Similarly focused studies also show that the percentage of positive treatment results is the same for both using technology and face-to-face contact. Expertly led online therapy groups show an increase in positive results, especially in the area of spreading prevention or methods of recovery from the illnesses. In some cases, even pro-ana groups can be seen as positive, which can better describe the struggle with a stigmatized disease and with self-presentation as such.

However, these views vary across scientific publications. The opinion that the impact of technology on the treatment of diseases is negative has more and more supporters than the one with a positive impact. The above-mentioned benefits of technology are seen as a superficial mask to actually reinforce the eating disorder and prevent seeking help and recovery. Participation in these groups gives users a much-needed sense of belonging and support, which, however, gives the impression that such a cult is not a disease.

Among the variables that influence the specific behaviour of patients with regard to digital technologies are anonymity, freedom of choice and the constant presence of the medium. According to experts, online anonymity allows patients suffering from an eating disorder to be much more open, that is, to share much more information about their behaviour and habits than in "real life". On the one hand, anonymity may allow patients to share the true nature of their disorder, making it easier for them to seek help. On the other hand, disruptive behaviour can spread more easily and quickly, thanks to the greater security that the anonymity of the online world certainly brings. Freedom of choice makes it possible to find information and online communities that support healthy as well as disordered behaviours. Thus, it is much easier to maintain unhealthy eating habits in an online environment, while offline interaction is in most cases aimed at treating the disease.

One of the main attributes of digital technologies that contributes to their negative influence is the almost constant and unlimited access, which thus allows for much more intensive interactions with the online environment and at the same time provides very limited possibilities to supervise these interactions.

What does the audience say

A similar topic regarding media beauty and the effect on the consumers, but seen from the perspective of the public, is the focus of a recent online survey [14]. The sample consisted of 216 respondents, aged mostly 15-25 years with completed secondary education. The author divided the sample into two groups: F1 – women who had experience with an ED, F2 – women with no history of ED, M1 – men with a history of ED, and M2 – men with no history of ED. One of the

working hypotheses was: people with ED feel more pressure from the media on their body image. There were also four secondary research questions: How does the media influence the body image of people without history of ED? How does the media influence the body image of people with history of ED? How does the idea of the ideal of beauty differ between people with ED's and people without ED's? What types of media are most involved in the creation and development of ED's? A qualitative analysis showed some interesting results

Information about diets and dieting are most often taken from the Internet and the new media. It was clear that the younger generation is trying various dietary trends, such as raw food, paleo diet, intermittent fasting, low-carb diet, etc. This is closely related to the previous question – young people look for diet inspiration mostly on the Internet. The not-so-positive news is that 38 % of young people under the age of 19 experiment with dieting, which is very dangerous from a physical and psychological point of view, as a person is growing and maturing at this age. There is also a surprising number of tried-and-tested with diets by individual respondents, which indicates constant dissatisfaction and an effort to transform the body. The influence of the media, and in this case mainly the Internet, is therefore quite clear.

The next part of the questionnaire focused on the perception of one's own body. A conclusion can be drawn that only 10 % of the sample is satisfied with their body figure. The relative dissatisfaction of women prevails especially among the F1 group, age category 15-19 years. 89 % of girls from this group with a history ED's are completely dissatisfied with their bodies. Even in the F2 group, most women are dissatisfied, only 39 % reporting full and partial satisfaction. Dissatisfaction also predominates among men, although in the M2 group there is a ratio of 56 % to 45 % to satisfaction. Hence, it can be concluded that body image in women is worse than in men, worse in people with ED's, but relative dissatisfaction with their body prevails over relative satisfaction, regardless of personal experience with ED's.

The next part of the questionnaire investigated what media related to body care the respondents follow and how they perceive the media image of the ideal beauty. The answers show that people are most active on social networks, i. e. on specially targeted profiles and in motivational groups. It is interesting that when comparing groups F1 and F2, the relative values for individual types of media are practically the same. However, unlike men, women follow more personal blogs focused on a healthy lifestyle (22.8 % of women vs. 9.3 % of men), especially the younger group under 25, and they also read magazines more often (8.4 % vs. 5.9 %). From a total of 199 responses, it was found that the younger generation follows fitness and healthy lifestyle trends on the Internet and social networks, regardless of their experience with ED's.

The next question asked whether people thought that the images of celebrities in the media and advertisements were realistic. We can observe the same trend for all four groups of respondents, except for men M2, where each of them answered differently. 74 % of respondents think that media images of celebrities are not realistic, 18 % are not sure and only 8 % said they think they reflect reality. Only in the F2 group, the share of negative answers are significantly predominant, otherwise the relative ratio of individual answers in the groups does not differ much. Most people are therefore aware that the portrayal of people in the media is constructed, primarily thanks to various modern technologies and computer programs, such as Adobe Photoshop. When asked whether the participants consider the portrayal of models and celebrities in the media unnatural and unhealthy, 48 % of them think so, 28 % are not sure and 24 % disagree. Paradoxically, the answers partly contradict the previous question, where most people said that they do not find the media's portrayal of celebrities to be realistic. However, for this question, a large part of them are either not sure what can be considered real, or they find the portrayal of celebrities to be unrealistic, but healthy and natural. This can also lead to uncertainty and confusion, which can have a negative impact on body image.

The following question asked respondents about the influence of the media on their perception of beauty and the body. More than three-quarters of them think that the media have a negative influence on us in this regard. 9 % think they have a positive effect, 9 % are not sure,

and the rest say they have no effect. Therefore, the vast majority of people are aware that the media have some effect on our perception of beauty, but according to the results of the previous question, they are apparently not quite sure to what extent. It is interesting that girls from the F1 category are the most in unison in this regard – the women who are potentially the most susceptible group in terms of unrealistic depictions of beauty and very clear about the negative effect of media on our perception of body image and beauty. This very nicely illustrates the paradox apparent from the research that has been carried out: people are aware that there is some influence of the media image of the (un)attainable ideal of physical beauty, but they are not sure what the nature of this influence is. Does it push people to eat healthier and get slimmer? Most likely not, given the numbers from the introduction. Does the pressure by the media influx of slim, tanned, muscular and fit people cause the audience people to feel dissatisfaction, shame, and guilt that make them eat more (or not at all)? The next question suggests an answer.

This question focused on the relationship between watching “beautiful people” in the media and one’s negative body image. Here again, differences between women and men can be seen and, in particular, signs of negative body image can be observed in the F1 group, where 39 % of girls said that they “always” feel worse about themselves when watching models and celebrities. For F2 women, the answer “mostly” prevails, but only 6 % answered “Always” and there were 21 % who never feel bad about themselves in such a case. Here, men seem to be much more resistant to any pressure, which correlates to their “immunity” against various fashion trends, and they rarely adjust their appearance to match that of a celebrity.

One question focused on the causes of ED. According to 38 % of respondents, a low self-esteem is main cause, which is the same percentage given by respondents with ED’s. It is interesting to look at the desire to look like models from the media as a possible cause for ED’s. Persons with ED’s do not give much importance to it, they rather reported the desire to lose weight, especially girls under 19 years of age (corresponding with the numbers given above). However, In the F2 and M2 groups (without history of ED’s) this option was selected by 27 % on average. For those with experience with ED’s, emphasis was put on the influence of the environment, such as family, peers, etc. It can therefore be concluded that society as such sees the greatest risk of developing ED’s in the media’s depiction of emaciated figures. Yet, the actual ED sufferers seem to see risk elsewhere.

When they were asked whether they ever followed pro-ana or pro-mia websites and blogs, the result shows that 58 % of the respondents did, mostly during the period of the disorder. Men have never encountered pro-ana sites. Most of these blogs were followed before and during the period of the ED by girls under 19 years of age. We see that social networks and blogs are most involved in the creation and development of ED’s according to this research.

To summarise, the set hypothesis, i.e. that people with ED’s perceive more pressure on their body from the media than people without ED’s, was confirmed. How does the media influence the body image of people without history of ED? Group F1 and M1 (with history of ED’s) showed more dissatisfaction with their own body in the research results than people without ED’s. The difference was evident when asked about the ideal body (both groups preferred more slender bodies compared to F2 and M2), and in dissatisfaction with one’s own body and anxiety about the need to lose weight or otherwise transform the body. The group of people with ED’s is also more aware of media pressure to adapt their appearance. In addition, it has been proven that the most sensitive age group, and in this respect also the most vulnerable, are girls under the age of 19.

1.4 Body positivity and fat shaming debate in the Czech Republic

Body shaming (and fat shaming in particular) as a form of discrimination is present. It can occur at any age, on any level, be it in a seemingly friendly and kind parent-kid relation, among peers,

or in a safe anonymity of social networks and media. It is a type of aggression to which people react differently, and in the worst-case scenario it may lead to psychic problems and eating disorders in sensitive or vulnerable individuals. It is generally accepted that social media create a suitable environment where body shaming flourishes: in an indirect, digital communication, people tend to be more critical, ruthless, and inconsiderate compared to communication face-to-face. However, the victims often play into the aggressor's hands by posting images in the public digital space that should have remained private.

While it is difficult to access and evaluate private conversations taking place in the virtual space, we will focus on public debate and the sphere of people who are considered *famous*. By famous, we mean people who have a wide and better access to media, television or radio, who have a significant number of followers (such as 100k+) of Facebook, Instagram or Twitter. These personalities can have a greater influence on the public space giving interviews or being (un)willingly featured in tabloid newspapers.

Body positivity and fat shaming among women

In her podcast show *Sádlo* (Lard), Ridina Ahmed opened a debate about fat shaming and stigmatization that had never been discussed this way before. Her show aired on national radio in 2021 and is available as a podcast series on Radio Wave, one of the largest audio archives on the Czech Internet that focuses on young generation.[15] The series has become very popular, developed into a theatre performance, large-scale photography exhibition and ultimately into a massive awareness campaign called *Moje tělo je moje* (My Body in Mine) that offers educational materials and workshops for children and young adults.[16] Ahmed decided to capture the life of girls and women who do not fit into stereotypical ideals of slim beauty, how they cope with the pressure on their appearance, what helps and what hurts them and if – despite what they go through – they manage to accept their body as it is. The overall message of the podcast series was not to glorify excessive weight, but to say that feeling shame is not a good attitude. There are risks associated with obesity that must not be overlooked, but only a positive attitude and motivation can lead a change and weight reduction.

The series elicited both positive and negative comments and contradictory reactions between advocates of the traditional media image and progressive activists. The body positivity movement is very often seen in a negative light as “promoting obesity” and Ahmed is trying to explain that it is not. Some authors see the resentment towards body positivity from a feminist perspective.[16] Going back to? *The Beauty Myth* by Naomi Wolf (1990), the increasing pressure on women's appearance and the narrowing criteria of what is considered beauty is seen as a tool to maintain the patriarchy. Female beauty is a commodity that can provide relative advantage to those who conform to the ideal even in a patriarchal world. Indirectly through interest and relationships with successful men, they can seize their share of power and wealth. Or at least the patriarchy feeds this illusion.

To illustrate the paradoxical situation where on the one hand, the numbers of overweight and obese people are rising, and on the other the perception still sees them with prejudice, contempt, and aversion, here is what one of the interviewed women said: “Being fat and not being ashamed of it is a real punk. It is terribly anti-systemic and anti-social. Almost no one will endure that. That's worse than wearing a Mohican of green hair. I find it more socially acceptable to snort coke on the toilet than to be fat.”[18]

It is generally accepted that popular trends promote youth, slenderness, beauty, and physical fitness, while apparent deficiencies and deviations from the ideal are overlooked, sidelined, or covered. However, there are cases among popular actors, singers, and celebrities, who do not conform to the ideal and who, in spite of drawing some negative attention, make their excessive weight their signature mark, their edge. They are able to stir up the seemingly rigid dominance of the slim, sporty, and beautiful and their weight is always an attractive topic for tabloid media. While some understand this trend as confirmation of their self-esteem, as a

mark of their satisfaction with body image and a positive example, there are still voices that condemn, criticise, and resort to fat shaming.

To give an example that resonated among the public and experts alike, we chose an article published on a tabloid website Super.cz. The author referred to a beach volleyball duo Barbora Hermannová and Markéta Nausch Sluková, former world champions. With an increased media attention, the tabloid pointed out to her body, which they considered “far from a volleyball figure”, and labelled her with a pejorative term for a person with excessive body fat. Hermannová later confessed that the body shaming comments in a media with nation-wide readership negatively affected her performance at the 2016 Rio Olympics, as she did not concentrate on the sport, but thought about her appearance. She admitted that she had to work on her mental strength and psychic endurance to fight these shaming remarks. [19]

The issue of eating disorders has been increasingly mentioned in the public debate, but has largely been reserved to women (as discussed below). To mention some examples, we need to highlight Petra Dvořáková's book *Já jsem hlad* (I am Hunger, 2009), winner of the Czech national book award Magnesia Litera for non-fiction. Dvořáková Petra Dvořáková comes up with a layered narrative, the framework of which is a capture of the struggle with anorexia nervosa. The author breaks down the simplified and generally accepted image of anorexia nervosa as weight loss for beauty, on the contrary, she perceives its connection with personal problems, family and partner relationships and traumas. She presents anorexia as a problem that can arise on the basis of the mother-daughter relationship.

More recently, Gabriela Koukalová, a major Czech sports star and an Olympic medallist, published an autobiography in 2018, in which she confessed to having suffered from an eating disorder for 10 years, despite being a top athlete. The book gained significant attention, mainly because Gabriela Koukalová has been considered a role model, a top female athlete who is expected to be in good shape, being fit physically and mentally. She commented that despite difficulties she has talking about this problem, she wanted to help other athletes and raise public awareness about eating disorders. There are several models (Nikol Švantnerová, a model, Miss Czech Republic in 2015) or actors (Hana Vágnerová) who share their stories of struggles with anorexia. However, these stories circulate mostly in tabloid media where they lose visibility among articles on how many kilos other celebrities had lost. Also, the above mentioned research shows that these tabloid websites are not targeting the vulnerable groups and if they did, the effect could have been the exact opposite – instead of getting information, support, help or advice, susceptible young women could feel more under pressure due to the false and artificial images of beauty ideal.

Body positivity and fat shaming among men

Although body shaming has been traditionally associated with women, because the society puts higher demands on female bodies, there has been a similarly increasing pressure laid on men as well.[20] Although body shaming is just as painful for men as it is for women, and cultural and societal norms can be similarly harsh, so far only a tiny percentage of men are open about their experiences and feelings about their bodies and their imperfections. Among other things, gender stereotypes are to blame for why many men are afraid to talk about their experiences or do not even think to reflect on them. These depict men as “stronger, unemotional, dominant”. This myth is represented by phrases like “don't cry and pull yourself together” and by mocking men who care about their appearance, as this pastime is attributed to women and therefore considered inappropriate for men. Fitness studios and gym commercials depict men's bodies in such a form and shape that is unattainable for the vast majority of male population. This discrepancy between the ideal and reality creates body image concerns that may result in lower self-esteem, guilt or shame that lead to further weight gain.

Eating disorders are becoming more common among men as well. However, men generally underestimate the disease, which is why it ends up having worse health consequences

than women. In their case, morbid weight loss is much more often associated with depression and anxiety. Studies confirmed that while most people have eating disorders labelled as a female problem, around a quarter of those affected are men. However, men themselves and even doctors underestimate eating disorders and often automatically assume that they can only affect women. This is also the reason why sick men receive professional help much later than women with the same diagnosis and why the damage in their cases tends to be more extensive. Sick men also have a harder time in the sense that if they confide in their family and those around them about their illness, they are often belittled, mistrusted and misunderstood. In short, the public has eating disorders still classified as women's problems. Another difficulty is the fact that affected men are often ashamed of their disease and feel that it does not fit with their "masculinity".

It has also been shown that eating disorders are more often associated with depression and anxiety disorders in men than in women. While women who suffer from eating disorders are obsessed with looking thin, the situation is different for men. Of course, anorexics or bulimics have a panic fear of gaining weight, but many of them do not desire an extremely thin appearance. Much more often, they maintain their dream weight and figure precisely through excessive exercise, which often endangers their health.

For this reason, words like *orthorexia* (obsession with eating healthy food), *bigorexia* (obsession with physical exercise to gain muscle mass), or *athletica neurosa* entered the public space. Either of them is recognized as a separate diagnosis, falling into the general category of eating disorders, obsessive-compulsive disorders or behavioural addictions.

One of the biggest achievements in addressing these issues publicly, a podcast series available on the national Radio Wave (on-air and on-line) was *Hrana (Edge)* [21]. In a format similar to *Sádlo*, six episodes explore male body image. Five famous personalities (a journalist, a popular singer, a celebrity chef, an actor) discuss their various struggles with their own body, their self-esteem, eating and behavioural disorders. One of the interviewees was Matěj Pardus (Superstar talent show contestant, dancer and singer), whose body weight has been the topic of tabloid media for several years. He admitted receiving hate mail from the audience and advice from strangers to lose weight. As if an overweight person did not fit among the other talents on the show, who were of course better looking, with a satisfactory BMI. Another guest was an actor, a prominent gay activist, whose skinny appearance has led people to encourage him to eat, to put on weight and pressure him to "look better" among other celebrities.

The difference in the perception of the two above mentioned podcasts is in the reactions it provoked. While *Sádlo* (from the women's perspective) raised larger number of both positive and negative responses, *Hrana* (seen from the men's perspective) did not receive such an impact and the reactions were overall positive. Men appreciate that *Hrana* opened this rather sensitive and hidden issue and they are willing to share their stories and experience. Some of reactions complained that there are personal stories that do not fit in any of the struggles mentioned in the podcast, that some men felt unrepresented with their concerns and issues. *Hrana* focuses mainly on two aspects of body image, i.e. body size and shape, while other aspects, such as height, hair, penis size, were left (intentionally by the author) unnoticed.[22]

Compared to the massive wave of women interested in sharing their stories that Ahmed and her *Sádlo* experienced after the challenges on social media, Houdek with *Hrana* describes the exact opposite – saying the recording experience was stressful. The selected male respondents often did not respond to his messages, suddenly cancelled arranged sessions, and when the recorder was turned on, they tended to simplify their statements and resorted to self-censorship. The level of self-reflection is significantly lower than we witnessed among women in the *Sádlo* podcast. The uncertainty in wording, resorting to empty phrases, the habit of hiding intimate problems publicly and the feeling of inappropriateness are clearly present.

1.5 Conclusion

While the numbers of overweight and obese people in Czech Republic are rising and the increase among young people has gathered pace over the past few years, there seems to be pressure exercised by the media on the general public. Research suggests that the effect of media is present in different forms, that the audience is aware of this pressure and that it does influence them – notably the most susceptible ones who are most likely to develop an ED. We showed that there are pioneering programmes in the media that are able to address this issue in a “non-tabloid” way. These podcast series can serve as a good example of a subjective approach that provides a close and intimate discussion. In the safe space of digital anonymity, people can hear about the triggers, forms, struggles, and strategies that famous people link with their own period with an ED. There are several conclusions that can be drawn from the comparison of the podcasts. Firstly, the topic of male body image and body shaming itself is a relative novelty: the public debate still tends to include women and show ED’s as a predominantly female topic. *Hrana* has not attracted so much attention based on the reviews and reactions found in the media, in social media, or on the Internet. Secondly, the attention and pressure of the society largely rests of women: commentators and viewers are more ready to discuss these issues in relation to women, perhaps because ED’s among women have already entered the public debate and can be considered as part of the mainstream communication. However, male issues rest on the edge of the debate and it seems that the society is less ready to accept them. Additionally, *Hrana* has uncovered that the issues linked to male body image and body shaming are far more complex and have so many nuances, that limiting the interviews to body size and shape seems reductive, even exclusive. This confirms the above-mentioned fact that men are, for various reasons, less open to talk about their intimacy. However, when prompted by such a podcast, they provide several aspects that lie hidden and are not spoken about in public debate at all. They are ready to listen to stories they can relate to. Contrarily, women seem to be bolder when entering the realm of public communication about private, intimate subjects and sharing their experience, as documented e.g., by the series *Vyhonit ďábla*, an award-winning podcast by Zuzana Kašparová and Terézia Ferjančeková discussing women’s sexuality, relationships and taboo subjects, ranked on Spotify among the top-ten in the Czech Republic.[23] It can be claimed that despite the demonstrable increase in eating disorders in men, the Czech society views this diagnosis as primarily female.

It also seems that the anonymity of the digital sphere (Internet discussions, podcasts) opens new routes for communication about ED, body image and body shaming. The printed media lack the insight and do not reach the vulnerable target group, i.e. teenagers and young adults. Tabloid media have an inclination to fat shaming and seem to fuel the artificial slender and beauty culture.

There is a well-documented increasing trend in the prevalence of excessive weight and obesity among children and young people and this increase has accelerated during the past two years due to Covid restrictions. It is clear that there will be more people suffering from weight problems and eating disorders and that education and awareness campaigns are necessary to help dealing with this kind of pandemic.

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2. Double-faced Janus: Spanish local report

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Fig 1. Statue representing Janus Bifrons in the Vatican Museums (Wikipedia CC BY 3.0).

Abstract. *In this chapter we look at the inverse connection between the Mediterranean diet and EDs in Spain as well as explore the crucial role that emotions can and do play both in the onset of EDs and in the possible recovery from the diseases. ED is growing apace in Spain and the COVID-19 pandemic has only exacerbated this increase. Nevertheless, we believe that some important steps are being taken by using the Arts: Visual Arts Therapy, Music Therapy, and Dance Therapy, which we are going to explore in this chapter.*

2.1 Introduction

‘My aim is to sing of the ways the bodies change, ceaselessly transforming into other forms’ [1] (Metamorphoses – Ovid, 8 AD). This chapter is dedicated to a Humanistic or interdisciplinary investigation into the situation of obesity and eating disorders (EDs) in Spain, but what are EDs? ‘Eating Disorders (EDs) are severe, chronic mental health disorders that are characterized by abnormal eating, dysfunctional relationships with food, and a preoccupation with body weight and shape’. [2] The chapter is entitled Double-Faced Janus since Janus was, among other things, the Roman God of “transitions” and “duality” and transformation. Not only is transition or transformation at the root of all Eating Disorders, but ‘The schizoid condition can be thought of as Janus-faced: one face directed with fear and longing to the external object world that lies beyond the reach of the patient’s illusion/delusions of omnipotence; the other face directed to a sensory-dominated state more primitive than that connected with the internal object world

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envisioned by Klein and Fairbairn. The latter “face” is the inarticulate underbelly of schizoid experience in which fantasy gives way to presymbolic, sensory-dominated experience’ [3].

Transformation and transition is also at the root of being human, as Gavin Francis in his book *Shapeshifters: On medicine and Human change* [4] describes beautifully, ‘To be alive is to be in perpetual metamorphosis. The borders of our selves are porous – shaped and recomposed by elements of our environment. River water was once sea spray; next year it could flow in your neighbour’s blood. The water in your brain once fell as rain on ancient landscapes and surged in the swell of long-gone oceans. From this perspective, the body is itself a flowing stream, or burning fire: no two of its moments are ever the same.’ This chapter is dedicated to transitions with an emphasis not only on bodily ones but also on emotional ones.

The chapter will debate on two concepts: The Mediterranean Diet, but also on a more psychological concept: Alexithymia.

The Mediterranean diet and Eating Disorders

Another reason that we have entitled our chapter Double-Faced Janus is that there seems to be a paradox at the heart of our local report, which will be explained in more detail. Spain, along with other Mediterranean countries such as Italy, South of France, Greece and others, has traditionally followed a so-called Mediterranean Diet (MD), which to some extent seems to be the antithesis of EDs.

The concept of a Mediterranean diet was developed to reflect “food patterns typical of Crete, much of the rest of Greece, and Italy in the early 1960’s” (5), although, in fact, it was first officially publicized in 1975 by the American couple: biologist Ancel Keys and chemist Margaret Keys. In 2011,

Bach-Faig in their article [6] presented their Mediterranean diet pyramid for today (that is for the 21st Century). In this article they describe the MD as follows: ‘The traditional Mediterranean diet (MD) is the heritage of millennia of exchanges of people, cultures, and foods of all countries around the

Mediterranean basin. It has been the basis of food habits during the twentieth century in all countries of the region, originally based on Mediterranean agricultural and rural models. However, the traditional MD is now progressively eroding due to the widespread dissemination of the Western-type economy, urban and technology-driven culture, as well as the globalization of food production and consumption, related to the homogenisation of food behaviours in the modern era.’ [6]

This description is interesting for although it states the MD as having been the basis of food habits during the past, it stresses that it is being eroded; thus, the paradoxical situation that we face now in 2022, where obesity and especially child obesity is an enormous health and social problem in Spain. A recent article [7] whose title is more than self-explanatory states that “Spain has the fourth highest rate of childhood obesity in Europe”, and the article goes on to associate the effect of the deterioration of the MD: “Too many children and adolescents follow habits that are detrimental to ensuring a high quality diet such as eating industrial pastries for breakfast (31.7%), eating at a fast food restaurant at least once a week (23.1%) or consuming sweets and candy several times a day (22%)”, [8] which leads to child obesity and associated diseases: “Two out of every five Spanish children between 6 and 9 years of age are overweight or obese, which can lead to an increase in cardiovascular risk factors and the incidence of diabetes, as well as gastrointestinal, respiratory, neurological and dermatological consequences for bone and muscle development.”

Such increases can be explained on strictly biological basis – energy and calorie intake, fats metabolism, etc. but, particularly with the Medical/Health Humanities hat on, one should move away from the more ‘simplistic’ medical model of describing and understanding diseases, and use the Bio-Psycho-Social model. From this perspective – in the etiology of EDs there are a lot of socio (and economic) factors – fast food, etc. particularly for the binge eating disorders (BEDs).

Increased incidence of BEDs might look, in first analysis, rather paradoxical, because in the Mediterranean countries one *would not expect this* [9], but there are a lot of pressures (of other kinds) that makes this increase incidence possible.

So what is the relationship between MD and EDs? Gavin Francis again is incisive when he writes, “As determinants of a good lifestyle, establishing the combination of a medium or high MD adherence with good physical fitness will result in a better health-related quality of life in adolescents.” (4) And in Spain? Paradoxical, double-edged, double-faced. Interestingly enough Janus does not only refer to the Roman God but is also the abbreviation for a screening tool for malnutrition – **JaNuS** – (Just a Nutritional Screening), which seems appropriate and timely. (10) However, BEDs and anorexia can be **positively affected** by MD. Bertroli et al. (11) state: “Our results suggest that the mediterranean dietary pattern was inversely associated with BED after adjusting for several potential confounders. Olive oil and nut consumption were associated with reduction in likelihood of being diagnosed as BED, while consumption of butter, margarine, cream, commercial sweets and confectionary was positively associated.”

Moreover, in another Spanish trial – The SUN Cohort – researchers found similar results. (12) They describe EDs as “severe, chronic mental disorders that are characterized by abnormal eating, dysfunctional relationships with food, and a preoccupation with body weight and shape.’ Their conclusions are interesting: “The results of our analysis suggest the possibility that MDP (Mediterranean Dietary pattern) is inversely associated with AN (Anorexia Nervosa) and BN (Bulimia Nervosa) incidences”.

Our report is going to concentrate on certain areas, one of which is the Balearic Islands with the hospital reference, Hospital Son Espases, where the UIB Medical school is also located, and which has a unit devoted to EDs. Below, you can see that the overall increase in ED patients in Spain is also present in the Balearic Islands.

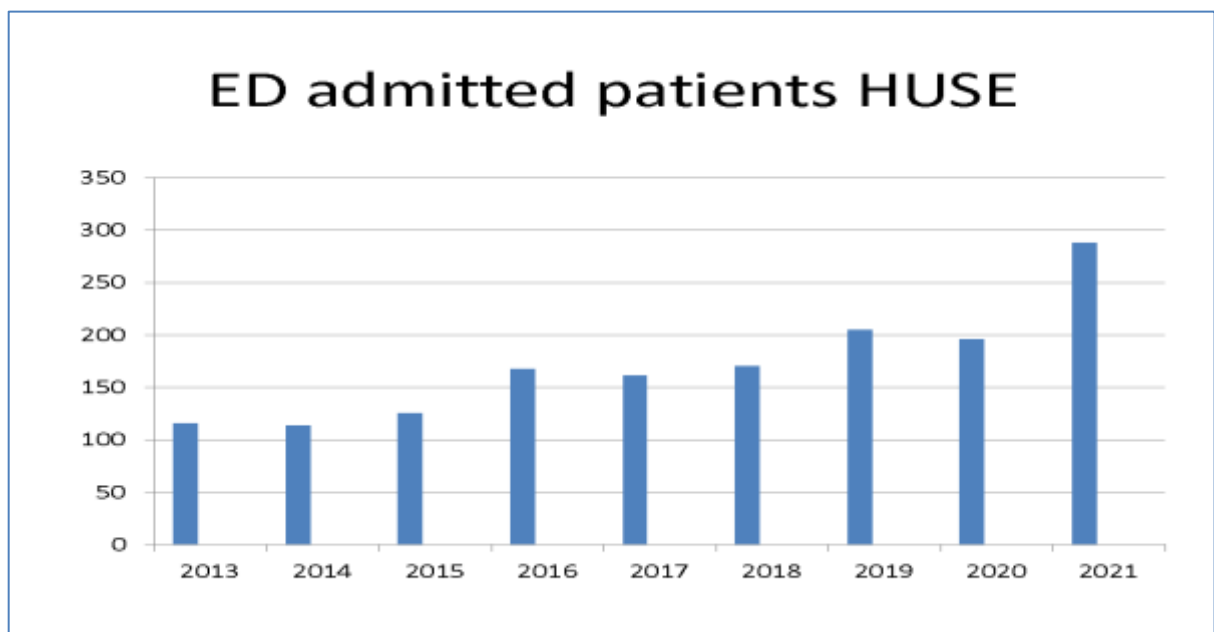


Fig 2. Data from HUSE (Son Espases University Hospital, Mallorca, Spain)

2.2 Emotions and eating disorders

Emotions play a critical part in both the onset and treatment of EDs. You could say that they are intricately interwoven. The Basic primary emotions: joy, sadness, fear, anger, disgust, and surprise are ever-present in EDs since emotions help us to communicate better with others,

move us to action, help us to better understand reality. But also, critically they help us to understand ourselves and if we cannot, then problems arise. In this case, EDs.

Alexithymia as an ED symptom. The central ED problem is the difficulty in managing emotions, which patients manifest through body language because they are not able to express them. The term *alexithymia* comes from Greek: ἀ- (*a-*, 'not', privative prefix, alpha privative) + λέξις (*léxis*, 'words') + θῦμός (*thýmós*, 'heart' or 'emotions' or 'seat of speech') (cf. dyslexia), literally meaning "no words for emotions". Another etymology: Greek: Αλεξιθυμία ἀλέξω (to ward off) + θῦμός meaning - to push away emotions, feelings. Nonmedical terms describing similar conditions include "emotionless" and "impassive". People with the condition are called alexithymics or alexithymiacs. The term was coined by psychotherapists John Case Nemiah and Peter Sifneos in 1973. Timoney, L.R and Holder, M.D state that "...alexithymia includes the following four main features: (1) difficulty identifying and describing subjective feelings, (2) trouble differentiating between feelings and the physical sensations of emotional arousal, (3) limited imaginative processes, and (4) an externally-oriented cognitive style. Overall, research indicates that alexithymia is a multi-dimensional deficit in affect recognition and regulation. The ability to process emotions is normally distributed in the population and high scores on measures of alexithymia may represent the lower end of this ability. Overall, research shows that alexithymia is associated with low levels of positive well-being, including low levels of happiness and life satisfaction." (13) These features are strongly linked to the personal psychological pressures that patients with eating disorders suffer from.

In the following sections of this chapter we will explore the link between emotions and eating disorders since emotions (or a lack of the ability to express your inner emotions) seem to be a centre of the psychological mind-set of the patients with EDs. We will delve into how enabling ED patients to express their inner emotions through three different forms of Artistic Therapy, i.e.: **(MT) Music Therapy, DMT (Dance Movement Therapy) and AT (Art Therapy)**, can help patients with these debilitating mental disorders. We will use specific projects from Spain to demonstrate the utility of these therapies.

2.3 Body image distortion

Body image distortion consists of the altered perception of the dimensions and other physical characteristics of one's own body. The appreciation of one's own body image is subjective and very often does not correspond to reality. In this section we are going to mention two "real" cases for which we are grateful to Dr Azucena Díez Suárez, paediatrician and psychiatrist at Clinica Universidad de Navarra, Spain, who highlighted these two cases in a presentation entitled "*Values of Nursing Care in Paediatric -Juvenile Mental Health in times of the Pandemic*" during the 68th Spanish Paediatric Association Congress held in Palma de Mallorca in June 2022.[14]

First Clinical Case

Martina - 10 years old. She goes to her parents, concerned because her sister has seen superficial cuts on her forearm and hips.

"She has tried to commit suicide," because since the pandemic she has felt very isolated and spent most of her time alone in her room.

She has no cellphone but has a Tablet internet usage history;

Also: looks fat, eats less

Risk factors: Pandemic. Menarche

Both parents medical staff, busy due to the COVID-19 pandemic

She barely speaks in the consultation and is crestfallen.

"Virtual boyfriend", "challenge to cut herself".

Clearly answers **NO** to questions of suicidal ideation.

Resolution:
Nursing intervention
Restriction of screens, social networks
Pet at home
Complete resolution in 3 months

Second Clinical Case

Irene



Figs 3 and 4 – images of Irene (with permission)

Irene said, "I was bored, I made a challenge with a friend."

15 years old, healthy until confinement; in her own words, "Perfect". So, as in the first case, the pandemic affected her greatly.

She suffered an estimated weight loss of 27.5 kg (57.5% body weight), and was admitted into hospital, where she was nursed with techniques of mindfulness and there was a good evolution.

However, the incidences increased, and they became worse, with a 41% worsening of the core ED symptoms, and a 37% worsening of the psychopathology.

Worse if they have low disease awareness and less adaptive strategies.

Nursing: weight monitoring, close follow-up in resources. What is interesting in both cases is the influence of the COVID-19 pandemic, which seems to have acted as a catalyst, possibly due to the isolation and feeling of being removed from reality.

2.4 Use of art therapies - Plastic arts, music, dance, and movement

"Art Therapy is the use of different artistic expressions, such as music, plastic arts, theater, poetry, dance, and movement, in a therapeutic context. Through art therapy, the patient is proposed to work with different artistic modalities through which he/she will express his/her inner world, resources, and conflicts. By creating, the patient not only shows the pathology, but also the resources and possibilities for change." [15]

Plastic arts therapy (AT)



Fig 5 – HUSE paediatric-juvenile Psychiatric ward (permission granted)

'All children are artists. The problem is how to remain an artist once they grow up.' Picasso

This famous quote by Pablo Picasso is important because it vividly demonstrates that when we lose the “child within us”, and the period of adolescence is a period of transition or transformation from child to adult, we can lose our true self, or at least the ability to connect with it. It is therefore no coincidence that EDs generally or predominantly occur in the transitional period in a person’s life; so why not use art to restore it since there are no limits to the expression of feelings in this activity. The arts, like all non-verbal expression, encourage the exploration, expression, and communication of aspects about which we are not aware" [16]. Paintings are records of stories and experiences in images. Color is chosen unconsciously according to the dominant emotion. Finger painting is about movement and through movement there is freedom of expression. First an image is created and then a story is mentally written about the image.

Anger is one of the main emotions felt by patients with EDs, anger which is an emotion that very often *takes over* the person. In HUSE, at the Paediatric Mental Health Unit, the Nursing Supervisor (EN) has used the plastic arts to try to counter the feeling of anger. The works of art that are produced from anger allow the representation through figures and shapes, textures of greater intensity, favoring the subsequent relaxation which leads us to acquire greater awareness of the alteration we have experienced and therefore allows the reflection of what we have experienced. It can help people to be more aware of their *potential for change* and thus allow the implementation of strategies for resolving those conflicts that prevent us from enjoying greater health and well-being. The idea is to allow the patients to use their hands first to break the *inner* anger and then to remould it, as can be seen in the images below.



Figs 6,7, 8 HUSE paediatric-juvenile Psychiatric ward (with permission)

Another technique used in HUSE is painting, but more importantly Finger Painting, which can be a way to establish a relationship and connection with yourself and others by exploring feelings without words or language. The important point is to restore or reconnect to that inner “you”. And, once you have been able to connect with your inner self then you can connect with your peers who are suffering from the same turmoil. Bonding with others is the result of being able to bond with yourself.



Figs 9, 10, 11 HUSE Paediatric Mental Health Unit, with Eugenia Nadolu

Music therapy (MT) (Isabel María Martín Ruiz) (1)

Music therapy, as defined by the World Federation of Music Therapy (WFMT, 2011 update), is the professional use of music and its elements as an intervention in medical, educational and everyday settings with individuals, groups, families or communities seeking to optimize their quality of life and improve their physical, social, communicative, emotional, intellectual and spiritual health and well-being. Research, practice, education and clinical training in music therapy are based on professional standards according to cultural, social and political contexts.

Therefore, when a project is carried out to conduct music therapy sessions in an Eating Behavior Disorders unit, it seeks to contribute to general objectives at the level of health promotion and well-being, but it also emphasizes the intervention from more specific objectives from different areas:

- **Cognitive area:**
 - Encourage cognitive restructuring, generating healthier and more adaptive ways of thinking,
 - Improve body self-image,
 - Intervene on self-injurious behaviors and suicide risk,

- Contribute to the development of creativity .
- **Emotional area:**
 - Develop and promote emotional self-regulation (of all types of emotions),
 - Create a more positive personal identity and a more balanced self-esteem,
 - Increase knowledge, label and communicate emotions to fight against the alexithymia characteristic of these patients.
- **Social area:**
 - Encourage social encounters to alleviate isolation,
 - Work on social skills to promote healthier socio-affective bonds.
- **Physical area:**
 - Contribute with nutrition therapies to body weight stability (BMI),
 - Encourage physical and mental self-care,
 - Learn to be able to relax physically and mentally.

The **musical tools and resources** used to achieve these objectives are:

- The use of the **voice**, as an intrinsic part of the self, which helps personal knowledge and promotes the search for improvement (giving voice to my healthy self that wants to heal). Using the voice is based on activities such as singing songs, the use of all kinds of vocal resources, Gospel, sounding of emotional states.
- The use of **musical instruments** such as the hang drum, guitar, ukulele, keyboard, calimba (The kalimba, or calimba, also known as sanza, mbira or mambira, is a sweet-sounding idiophone musical instrument invented and spread throughout the African continent), yembré (small percussion instruments) - more as an extension of the self with which it can be expressed both interpersonally and intrapersonally. Group sessions of instrumentation, improvisation, creation are possible.
- **Body resources** to express and reconnect emotionally with the body through movement and non-verbal communication. Use is made of dance and movement as well as body percussion.
- **Vital BSO.** Through this resource, the musical history of the users is explored, knowing what music has accompanied them in their lives and in important personal moments. [17]
- **Passive techniques.** Through sound baths, guided visualizations, therapeutic massages, musical mindfulness, etc. we can find a space for the most receptive sessions, which seek relaxation of body and mind.
- **Songwriting.** This technique of creating songs from experiences or emotional experiences can promote personal identity or social group identity, if it is a joint creation.

2.5 Personal experience

In the years of profession performing music therapy with users with EDs in a public hospital in Barcelona, I have been able to appreciate how music helps to mobilize them at an emotional level, generating emotional connection and communication, and promoting a healthy emotional regulation appropriate to the context. Likewise, music helps to alleviate depression and anxiety (commonly associated with eating disorders), to relax, to improve sleep and rest, to improve and create a proper identity and self-esteem. It seeks to give voice to the healthy inner voice that wants to heal, to reduce stress and pressure levels. Music therapy sessions are perceived as a playful and relaxed environment that helps to reduce the sense of ridicule, working from humor and from the creation of a good therapeutic bond with the professional music therapist and / or the group.

In conclusion, music therapy offers an ideal environment, which in the hospital or outpatient context in which the sessions take place, offers a positive and human space likely to help these people during a complicated process, with the aim of accompanying them in their recovery.

Dance/ movement therapy (DMT)



Fig 12. Edgar Degas, *La Petite Danseuse de Quatorze Ans* (1880) (Wikipedia Creative Commons CC0 1.0 Universal Public Domain Dedication)

In general, body expression therapies that involve movement or static activities, such as relaxation or meditation, are generally not well tolerated by ED patients since they lead to introspection, a situation in which they are not comfortable because they do not know how to manage it, and it can overwhelm them. However, paradoxically, on the other hand, movement activities do allow them to focus on the activity and not on the body. We could say that they connect with the body through the activity.

In his study looking into EDs in ballet dancers in Malaga, Spain, Alvero-Cruz et al. write: 'The influence of cultural and social factors on the development of EDs and their manifestations have been investigated from multiple perspectives', and the article continues that in the case of dancers 'it is well known that they spend countless hours practicing in front of mirrors where their bodies are closely examined by themselves and others'. This close inspection by themselves and by others is something that makes them feel uneasy with themselves and with their body images. This is exacerbated due to, as Alvero-Cruz mentions, " high levels of perfectionism concerning dance and a specific body shape, combined with the socio-cultural pressures for thinness inherent in the dance profession." [18] Maria Conde Gutierrez [19] also equates classical dance with a risk factor for EDs: 'Classical dance is a demanding discipline that requires dancers to have an excellent control of their own bodies, extremely slim figure, and considerable dedication. These high demands could favour the development of eating disorders in people who start this practice, setting up a risk population.' [19].

Nevertheless, DMT has been used to alleviate or ‘cure’ EDs. Frisch.M. et al in their seminal paper [20] rightly state that: “The body is a central battleground in eating disorders, making DMT a promising adjunct treatment”. It is interesting how the article connects mind-body: our adherence to Cartesian dualism since the 17th century, in the west at least, has led to a dichotomous approach to all around us, and not least in medicine and health. This article counters this by adding that “The majority of dance movement therapists base their therapeutic art on the idea that the body and mind are unconsciously (or consciously) connected and strive to impact the mind through some type of direct work with the body. In other words, positive effects on the body may often result in positive changes within the mind.”

In Spain, there are studies that show that dance and movement therapy can be used to counter uneasiness and, similarly to MT and AT, they allow the ED patient to become acquainted with, and comfortable with their own bodies. And this can be achieved through dance: the two-side coin, the double-faced Janus, at work again. We are going to use one Spanish study – *Re-inhabiting one’s body: A pilot study on the effects of dance movement therapy on body image and alexythimia in eating disorders* (21), and even though it is a mixed study (that is both quantitative and qualitative) we will concentrate on the qualitative, which deals with the emotions of ED patients, and include some of their personal narratives.

Fourteen patients with eating disorders were recruited from a private clinic in Barcelona called SETCA (Servicio Especializado en Trastornos de la Conducta Alimentaria – Specialised Service in Eating Disorders). Seven of these patients were assigned to the DMT group via quasi-randomization while the other five were treated as usual. For the DMT group, twelve sessions were conducted over a 14-week period, and they were optional. Meanwhile both groups, DMT and the Control group, continued the habitual treatment.

Moreover, each of the participants in the DMT group was invited to keep reflective diaries in order to obtain a better understanding of the processes and be allowed to express themselves.



Fig 13 Henri Matisse, *La danse* 1909, (Wikipedia Creative Commons CC0 1.0 Universal Public Domain Dedication)

Here are *random* examples from those reflective diaries included under the following five Domains: (A) Emotion, mood, and alexithymia, (B) Body and movement, (C) Interpersonal aspects, (D) Metaphors, and (E) Reflections.

(A) Emotion, mood and alexithymia.

“Today I was emotionally less calm and peaceful because of the circumstances and take in the near future” (P1S04)

“I’m leaving the session more energetic and happy, feeling better than I was before” (P5S10)

“I was surprised that I cried so much, so deeply, so intensely...” (P6S07)

(B) Body and movement

The participants enjoyed different aspects of the movement sessions:

"{} with the ball, I was able to identify which parts of my body were more receptive" P6S05 or "Later when we had to walk, my fun and "playful side" got out with the ball....(like power) (P5S10)

(C) Interpersonal aspects

The authors mention how the interactive elements were very important since they raised the energy levels of the participants, just as was the case with the *bonding* experienced in the AT in HUSE under the tutelage of Eugenia Nadolu. Here are some reflections:

"I liked P7 as my partner. I was surprised positively and it has been a new and different way to get to know her and get a little closer to her" (P6S10) or

"I really liked the next exercise as well. Someone touching my chin, holding it from below. It made me feel especially good, it was like never doubt or never forget to hold your head up high" (P6S12).

(D) Metaphors

The authors cite Lakoff and Johnson (22) when they refer to metaphor as not only linguistic representations, but also dreams, memories and *feelings*, and in one of the techniques the participants were guided to think of a place that could convey a sense of security and safety. One referred to the beach but without many people, while another said, "I can't see the ocean but it's inside me. Confusion. A coffeehouse in Paris, empty..... I can observe the landscape through the windows of the café. Calmness". Another mentioned that her safe place was a person: "E" is my safe place." (P6S07).

(E) Reflections

We will show two reflections, one more negative than the other, to give a broader picture:

"Loneliness. I think that's what it's mostly about, next to other things. In the end, the core of all my worries is fear and the base of it is loneliness, not feeling cared for, loved..."(P4S11), while another patient reflects, "I am more open-minded nowit's been good for me to change my mind" (P5S07).

These comments are interesting since they show, I think, that the words of the authors, "the qualitative analysis revealed other factors of the DMT sessions that were appreciated by the participants as they reported an increase in self-awareness, improvement in emotional states, as well as they valued verbal and non-verbal interaction with the group members and with the therapist.", ring true.

The key perhaps is in combining Art Therapies, such as in this case DMT with more traditional ED treatments. This combination would bring balance and provide a more holistic and effective approach to a complicated disease that is torn between body and mind. Our bodies are in constant transformation as Gavin Francis has mentioned in the beginning of this short chapter, but EDs are changes that affect us both physically and emotionally, as Francis mentions when talking about anorexia nervosa, "... It is an inscrutable disease: baffling and frustrating to those who suffer it, as it may be for those trying to help. Some mental illness dissolves the boundaries of the self, tearing the seams by which we hold our selves together" [4] This last sentence is, we believe, at the essence of EDs, and a lot still needs to be done to combat this terrifying destruction of the self in patients with EDs. Emotions will play a strong role.

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3. Tendencies and perspectives on body image in Lithuania

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Abstract. *The appearance of the human body and its image in Lithuanian society are currently one of the most relevant health topics. In the media and on the Internet, a lot of attention is paid to the appearance of the human body and the image of the person, certain body appearance standards prevail, the non-compliance of which can have a negative impact on a person's physical and mental health and his social life. Individuals and society perceive and evaluate body image based on shape, weight, girth measurements, other characteristics of physical body appearance and their shortcomings. Lithuanian nutritionists note that there is still a stigma in society that obesity is not a disease but a person's neglect, which is why people with obesity rarely talk openly about the difficulties they fear. The slender body is desirable in Lithuania. However, in contrast to the negative influence of the media on the formation of body image, positive initiatives by formal institutions, influencers, and media are also taking place.*

3.1 Introduction

The number of obese and extremely thin people is growing in the developed and developing world, so the problem remains a major public health challenge worldwide, including Lithuania [1].

The appearance of the human body and its image in contemporary Lithuanian society are one of the most relevant health topics. In the media and on the Internet, a lot of attention is paid to the appearance of the human body and the image of the person, certain body appearance standards prevail, the non-compliance of which can have a negative impact on a person's physical and mental health and his social life. Individuals and society perceive and evaluate body image based on shape, weight, girth measurements, other characteristics of physical body appearance and their shortcomings [2].

Historically, the first messages in press regarding body image in Lithuania are dated in the 20s of the 20th century. The late 20s is a period when a certain middle (social) layer is already forming in Lithuanian cities, the distinguishing features of which are defined as being Lithuanian, living in urban area, and carrying out a professional activity. This group called itself the *intelligentsia*. During that period, new press periodicals appeared, focused on the middle class looking for new aspects of self-identification. In these publications, for the first time, the discourse of beauty and its related matters - fashion, flirting, modern dance, body care - begins. It is believed that the social status of the group represented by the person is expressed through the appearance, therefore the appearance must conform to certain conventional models. The appearance of a city dweller must be different from the appearance of a worker or a peasant, i.e., the appearance of a city dweller must be modern. In this case, modernity is perceived as keeping pace with those beauty standards that reached Lithuania from Paris or Hollywood. The first innovation that sociologists studying the societies of that time talk about is the renaissance of physicality. It differed from previous renaissances of corporeality in that the body becomes not only an object of admiration, but of construction. Body construction often took brutal forms.

Various formulas for body proportions were constantly published in the press and women were encouraged to believe that they could achieve such proportions if they worked hard [3].

In modern society, body image is defined as a complex multi-valued set of somatic and psychological constructs that represent a portrait of the subject's physical appearance, body size and shape, feelings, and behaviour [4]. Objectified body consciousness is widespread in modern society, i.e., the tendency to perceive one's body as an object observed and evaluated by others [5].

There are several components that determine one or another evaluation of one's body. These components include a certain human behaviour, state, or environment, i.e., eating habits in the circle of family and/or friends, body mass index, media (television, written press), psychological state (self-confidence, tendency to depression, experienced or experienced bullying due to weight, body defects) [6]. The media, as one of the aforementioned components, creates the conditions for societal pressure to conform to appearance standards and expectations related to appearance.

Studies conducted in Lithuania have revealed that the body image of teenagers is related to self-esteem (an individual's feeling of self-love), self-concept and the regulation of psychological well-being. Many biological, psychological, and sociocultural factors influence healthy and distorted body image (a person's actual body size and shape, self-perception, mental state, family environment, opinions of relatives and colleagues, cultural standards, societal pressure, print and visual media, marketing of unrealistic body shapes and promotion) [7]. Media, family and peer pressure and bullying, and many other psychological factors can promote body dissatisfaction and thus contribute to the development of eating disorders [8]. Images of famous people or models are published in the media, and their images are closely related to the influence on the body image of teenagers. Adolescents look to the media for information to understand their role and social worth [9].

Thus, the mass media and the social environment have been shaping body image in Lithuania for almost 100 years. As a result, many eating disorders and psychological problems in adolescents are follow [10]. However, taking into account the fact that trends in attitudes towards body image change approximately every five years, today's trends in fatness and thinness in Lithuania are reviewed below.

3.2 Fat body image in Lithuania

According to the Department of Statistics, in recent years more than half of the Lithuanian population has been overweight, i.e., 38 percent were overweight, mostly men, and 19 percent were diagnosed with obesity. The latter diagnosis is more common in women. Although overweight is associated with close to half a hundred health problems and a negative mental-being, in Lithuania this condition is undeservedly ignored.

Observations of the Institute of Hygiene show that the number of obese children is increasing in Lithuania. In years 2019-2020, one-fifth of all children under the age of 18 were overweight or obese. Being overweight can signal serious illnesses such as diabetes, endocrine diseases, or pancreatic problems. Central nervous system diseases are also known to contribute to obesity.

Although the COVID-19 pandemic and lockdowns restricted movement, opportunities for physical activity, and created the preconditions for the growth of overweight, doctors note that the number of overweight people in the doctor's office has not increased.

Thus, in Lithuanian society, the attitude towards obesity is slightly distorted and it is not considered a relevant problem. Physicians state that people usually come to physicians for other problems, although obesity and overweight are often the cause of other diseases.

What is considered as a “plus-size”?

Opinions of one’s body form at a very young age. There are many things that influence how young persons see themselves. Despite various educational measures it is difficult to escape the “ideal” body image that is promoted in today’s media (on TV, in magazines, on the internet, and in social media).

In Lithuania, the cult of beauty is still strongly distorted. Although the global industry is trying to change this, for example, well-known brands of mass production, such as Nike, are trying to choose plus size models more often, it is still difficult to accept this in Lithuania.

There are projects in Lithuania that have had a negative impact on teenagers' perceptions of plus-size girls. For example, plus size girls were selected to participate in the TV project “Size (R)Evolution”. The show was designed to show that no matter what size women are, they are strong, beautiful, and deserve to be judged by their talent, not the size of the clothes they wear. During the reality show, the girls fought for the title of winner, plus-size model name, and other prizes. And... The winner of the project was a girl who was 183 cm tall and weighed 73 kg. Her BMI was about 22, so she belonged to the normal weight group. According to the popular Brock formula, a girl should weigh 84 kg.



Image copyright: yeletkeshet / 123RF Stock Photo

Well-known Lithuanian stylists and the media also started talking about such a misleading understanding of a "plus-size girl". There has been a debate about the impact on young people of a normal weight girl being seen as a 'plus-size model'. Most probably, because of the escalation of this perception, a young girl wearing M (EU36) size clothing will surely assign herself into the category of a plus-size girl and will immediately go on a diet. Not to mention that, after the finals of such a show, the organizers said that the winner had to be charismatic, brave, and not necessarily VERY plump. Still, it is assumed that while watching such a TV show, the young girl will not really think about some character traits or courage in front of the cameras. The fact that a woman wearing clothes of the M size is considered plump, probably will be the most important issue to the young person.

It is important to mention that the decision of the winner of the project to participate in such a show was determined by a misconception about her own weight. As a teenager, she was involved in model selection and did not fit in XS (EU34) size clothing, so she herself decided it was too thick and needed to lose weight. The diet did not give long lasting results and the girl gave up.

Thus, the formed attitudes towards body image and stereotypes can have a snowball effect and can affect not only an individual but an entire generation.

Beauty has no weight

However, in contrast to the negative influence of the media on the formation of body image, positive initiatives are also taking place.

Photographer Simona Banyte set out to show that plus size women are beautiful. A few years ago, she launched a photo project “Beauty Has No Weight”, which she continues to this day. Simona photographs women wearing plus-size clothes and is happy to contribute to their well-being. The title of the project was carefully developed until it was finally set: that beauty has no weight in the literal sense of the word. Beauty does not weigh 50 kg, 90 kg, or whatever. As a matter of fact, it is impossible to weigh beauty.



Image copyright: deniskalinichenko /
123RF Stock Photo

The author of the project still agrees that, in a figurative sense, beauty has weight and, in many cases, quite a lot. Everyone by nature desires to be beautiful. But everyone’s perception of beauty is different. This perception is formed as a person grows and matures. Beauty has always been understood differently, especially the beauty of women. Throughout the history of mankind, a beautiful woman has been considered to be full or slender, having white as paper skin or being extremely tanned, with and without thick eyebrows, etc.

Thus, the photographer started this photo project back in 2014, when it was not so popular in Lithuania to talk about plus-size women, especially to take photos, and share photos in public. At that time, it was really not easy to find women willing to take part in such a photo project, show off their body shapes and publicize what they are usually accustomed to hiding.

Today, everything is different. Finally, new global trends have reached Lithuania and the most famous fashion houses are choosing plus-size models for fashion shows, various TV projects are being organized, the participants of which are plus-size women and men, magazine covers are decorated by people of different sizes, etc. It is gratifying that the approach to external beauty is becoming more encompassing and is expanding.

According to Simona, it is especially important to see such examples for children and teenagers who are still developing themselves. It is important to help them realize that all is well to be the way you are, that the exterior and size of the clothes you are wearing are not a verdict that you are better or worse. It is noticeable that there is currently a new trend in social media, i.e., to display a realistic self-image without any filters. And it is really gratifying.

Photographer Simona is very surprised that women who write and want to join a photo project are often skinny or even very skinny but consider themselves plus-size. When a young girl uploads her photo, which clearly shows that she is of average body size and needs at least

another 20 kg to plus-size, it becomes very sad that she underestimates her real image and underestimates herself.

However, there is a story below about how a woman changed her attitudes towards her body during the project lifetime.

The story of Paulina: it took me a while to love myself with all the fat and cellulite

“Adolescence itself was quite difficult. I did not understand what was going on with me, why I was changing, why my body was changing. I remember how I suddenly became a woman from an extremely skinny girl. A woman with all the benefits. Now I call it an advantage, but I did not like it at all at the time.

Therefore, I tried to get rid of the changes by following various diets. I still wanted to be what I was – a skinny girl.

The desired result was achieved, but it was only temporary. As soon as I returned to my normal diet, the extra

weight came back at the same time. I lived like this for almost 7 years. I used to diet my body to lose weight. It took me a while to finally realize, “My body is my home and I love it with all the fat, stretch marks and cellulite!”

My life has changed since the day I changed my mind! Self-confidence has increased. I started not to be afraid of more open clothes and even a bathing suit. I finally became happy. A woman has to look feminine. I think all bodies are amazing! I say this because I was myself both extremely thin, and with a lot of fat, so I can safely say that weight is just a number! The most important thing is how you feel in your body, whether it is good for you to live in it, or whether you are happy. After all, our body is our home for life, so we must respect it and take proper care of it. Not to avoid physical activity and healthy food, because that is what our well-being depends on. Of course, let's not be afraid of meetings with friends and a piece of cake, the most important thing is balance!”

This story and stories of other participant are shared publicly to inspire other women to become self-confident in the bodies they have and to seek to have a healthy body, but not a certain body image.

An invitation to change attitudes towards body image

Lithuanian nutritionists note that there is still a stigma in society that obesity is not a disease but a person's neglect, which is why people with obesity rarely talk openly about the difficulties they face because of the critical attitude. Therefore, in recent years, the focus on public health education has been on obesity as a disease caused by the interaction of genetic and environmental factors that lead to the development and progression of other diseases, and people are encouraged to consult medical and health specialists [11].

Extensive research shows that both children and adults in Lithuania tend to have a negative attitude towards overweight people. This is directly related to the prevailing view in society that weight can be controlled and being overweight is equated with a lack of will. For example, during the social experiment in one gymnasium, teenage girls were asked to rate photos of other girls in terms of attractiveness: overweight girls were given the lowest scores. However, when participants of the experiment were warned that obese girls had thyroid problems, their photos were rated as attractive as those of moderate-weight girls. Thus, in the first case, overweight girls were perceived as responsible for their own weight, and in the second case, as victims of health problems.

To combat the stigma of obesity, society has been lately educated that we should first and foremost personally identify our own attitudes and attitudes toward weight that we unconsciously transmit through our words and behaviours, and thus contribute to stigma. We should perceive being overweight as a specific health problem and not attribute it to a person as a personal trait. “I am obese” means that I am already like that and will not do anything. It

causes despair and triggers a vicious circle of negative thinking. "I am sick with obesity" means there is a problem that is kind of detached from me. In this way, it is easier to control, and take certain concrete steps to fix it.

Another important issue to be taught is how to call such people. It should be said that a person "is overweight", "has a high body mass index", or "is obese". Different languages have some normative terminology and jargon to call overweight people. Some terms can be offensive. Society needs to be educated on how to ethically call overweight people.

The media could also help reduce the stigma of obesity. In articles on obesity and overweight problems, in advertisements on how to lose weight, we usually find a picture of an overweight adult or child reduced to certain parts of the body that are the thickest, which hardly cause admiration. This is a wrong message that the images transmit, which advertisers will always be able to replace by using non-obese people [12].

3.3 The slenderness culture or driven to perfection

The culture of slenderness in Lithuanian mass media

While conducting the survey on the ideals of slenderness in the Lithuanian media, it has been noticed that this topic is not widely studied, consequently, the thinness ideals promoted exclusively in print media were investigated.

In a study conducted in 2002, 4347 girls aged 10 to 18 years were interviewed. It was found that, according to the respondents, the leanest body ideal is promoted by magazines. It was also found out that the magazine, which mainly idealizes an extremely lean body, is considered by the girls to be *Panelė*. It needs to be mentioned that the content of the media was not analysed during this study, but the statements of the girls about the ideal of the body promoted in certain publications suggest that the content of Lithuanian magazines for women and girls pays special attention to the ideal of slenderness and ways to achieve and maintain it [13].

Another publication analyses gender roles and stereotypes rather than body ideals. However, the authors of this study notes that "... all studies have a common denominator. This is a prominent focus on a woman's body, i.e., sexuality and factors that support it". Thus, even when it comes to a woman's place and role in society, her career and professional achievements are indispensable without taking into consideration the area of the ideal body shape [14].

Another study analysed the ideal body shape promoted in the four mostly read magazines for girls aged 15-16 - *Panelė*, *Žmonės*, *Extra Panelė*, and *Cosmopolitan*. After analysing the photos published in magazines, it was found that "*Half of the photos show bodies at the boundary between an anorexic and a normal, and a third of them show images of a woman's body that meet the criteria for anorexia. Photos that meet the criteria for anorexia are more common in advertisements*" [15].

The same study also found that girls with low BMI tended to consider themselves as having a normal build-up, while those with a normal BMI tended to consider themselves to be overweight. According to the study authors, this shows that the media forms a distorted self-perception and has a negative impact on the personality development of young girls both physically and psychologically.

Another study presents the trends in the depiction of body image cues in Lithuanian magazines aimed for children and adolescents in relation to changes of real body mass index (BMI) and body size perception of 16–19-year-old girls in the years 2000 and 2015. Three popular journals published both in the year 2000 and the 2015, were chosen for in-depth analysis of their contents (the periodicity of different topics was counted and compared). Attention given to a healthy body image has increased and the promotion of especially skinny female body has decreased during the last 15 years from the dominant type in the year 2000 to depiction of slightly thin or normal body build in 2015. However, the real BMI of 16–19-year-old

Lithuanian girls has significantly increased during the 2000-2015 period (from 20.09 to 21.32 kg/m²; p<0,001). Despite this fact, the older adolescent girls were more satisfied with their own body size and shape in the year 2015 than in the 2000. The present study showed that changing depictions of body image issues in mass media (magazines aimed for adolescent girls) occurred in parallel with changes in the proper self-esteem body size in adolescent girls [16].

Trends in the promotion of physical activity

The Lithuanian Health Program envisages increasing the physical activity of the country's population. It aims to increase the number of physically active students by 50 percent and reduce the number of physically inactive people under the age of 65.

More and more private sports and health centers are being established in Lithuania, providing conditions for people with higher than average and highest incomes to exercise.



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However, the cult of the body promoted by the beauty industry and the media has taken central stage in the marketing systems of many private sports centers, thus undermining the goals and importance of physical activity. The identification of physical activity only with the improvement of the body and the dissemination of such attitudes is associated with direct and indirect damage to public health.

Today's Lithuanian sports policy is mainly focused on fostering elite sports, and physical activity is at best understood as the Sport for All movement. No state institution assumes responsibility for the conditions of physical activity provided to the population. With the expansion of the market for private sports centers and beauty services and with the help of the media, the country is cultivating a cult of the body. Physical activity becomes a means to achieve the desired image of the body, but not a means to achieve a common culture [17.]

Another negative example is from the famous Lithuanian influencers. She talks a lot about sports, a healthy lifestyle and balance. She constantly uploads videos, Instagram stories about a healthy and balanced lifestyle. However, when you go to her Instagram profile, your eyes first catch the clearly sent message "I have lost 30 kg. I know how to make YOU lose them". And although below she continues writing about balance, eating, and slimming, the first formed idea is that "you, the one reading the post, weigh too much and need to follow a diet to lose some weight".

However, there are more and more food bloggers who create social networking content about healthy and balanced food, encourage them to maintain optimal body weight when eating, and do not talk about the need to limit food and exhausting fasting diets. It is also important to mention that Lithuanian women are becoming bolder and no longer afraid to talk openly about the diseases, problems, and difficulties they faced and later got rid of. Although it is difficult to find the girls' own stories about eating disorders, psychologists, nutritionists, and health professionals are very involved. They openly tell and thus educate young girls about what happens if they are afraid of getting fat, want to lose weight unreasonably, and get bulimia or anorexia.

Even in the national media, science-based educational texts on body mass index, body fluids, muscle and fat mass have recently appeared. They are designed to inform the general public what myths should not be believed and what is useful for everyone to know.

It is explained that it is important to track not only your weight, but also other data, muscle, and fat ratios, because when starting to exercise, muscle mass varies with the type and intensity of the sport.

Daily weighing is also pointless. Both men and women can have an average error of 1.5-2 kg. The best weight is on Wednesdays, because if a person works or studies from Monday to Friday and on those days, they try to follow the diet and exercise regime, and on the weekend they relax, the Monday weighing will be inaccurate. This can be affected by fluid levels and even weather conditions. Excessive salt intake also leads to additional accumulation of water in the body.

To conclude, it is recommended to monitor the signals sent by yourself and your body. An individualized approach to physical activity and health is most beneficial [18].

Experience of the Eating Disorders Center

A national Eating Disorders Center has been established at the Vilnius City Mental Health Center. The department provides specialized secondary level outpatient, inpatient, and day-inpatient-services for adults, and day-inpatient-services for children and adolescents. The department is a teaching base of the university, where practical studies are conducted by residents and students of master's degree in clinical psychology, physiotherapy, and nursing.

Treatment is stepwise and complex. Patients are consulted by a therapist, neurologist, rehabilitologist, and social worker as needed. Psychological examination is performed, the diagnosis is clarified, and teamwork is organized. The team consists of all the staff of the department: doctors, nurses, psychologists, a nutritionist, a physiotherapist and resident doctors and master students in psychology. Each week, the team discusses patients' condition, changes in weight and body composition, adherence to daily and dietary regimen, individual and group dynamics, and anticipates weekly workflows.

Adolescents are also consulted on an outpatient basis and are consulted by a child and adolescent psychiatrist. Adolescent treatment can be continued in a day-hospital for children and adolescents. It provides specialized day-hospital services for teenagers aged 14-15 years and having eating disorders. Treatment in a day-hospital lasts on average about 6 weeks. Services provided in the day-hospital: individual and group psychotherapy, consultations of a doctor nutritionist and a child and adolescent psychiatrist, psychoeducational classes for adolescents and their parents.

During the interview, the Centre's medical staff revealed that care in the day-hospital is very beneficial for adolescents. Psychological sessions with parents and children play a strong educational role. The adolescents' parents acknowledge that there is a great lack of information on how to communicate with a child with an eating disorder, how parents and relatives can help the adolescent, and so on.

As the center accepts adolescents from all over Lithuania, it was decided to increase the number of places in the day-hospital unit in the near future, and at the same time to extend the duration of treatment in this hospital in order to better consolidate the achieved results.

3.4 Conclusions

Almost 60 percent of Lithuanian population has been overweight, 19 percent with obesity and of them mostly men. In addition, the obesity in early ages is increasing and the currently data shows that one fifth of all Lithuanian children and adolescents are overweight or obese.

Although overweight is associated with several health outcomes, this condition does not seem to have high prominence or priority on the Lithuania national public health agenda.

Studies in Lithuanians adolescents have showed that the body image is associated to self-esteem, self-concept and the regulation of psychological well-being. Media, family and peer pressure and bullying, and many other psychological factors promote body dissatisfaction contributing to the eating disorder and mental health problems. For example, in Lithuania television a woman with BMI \approx 22 (normal weight group by the WHO) was the winner of a "plus-size" TV show. Thus, the mass media and the social environment have been shaping body image in Lithuania in the last century. National studies have also shown that the ideal body shape is mainly promoted by four magazines for teenagers, where more than 50% of their content shows bodies on the border between an anorexic and a normal, and a third of them show images of a woman's body that meet the criteria for anorexia. Therefore, the cult of beauty is still strongly distorted in Lithuania. Although the global industry is trying to change this, with clothes and models plus size, in Lithuania it was not very well accepted. Nutritionists also note that there is still a stigma in society that obesity is not a disease but a person's neglect which is why people with obesity rarely talk openly about the difficulties they face because of the critical attitude. National studies also showed that both children and adults tend to have a negative attitude towards overweight people.

Overall, despite the limitations of Lithuanian studies, the current chapter highlight the importance a new national public health agenda on health-related issues to the human body such as: body appearance standards, self-perceptions, eating disorders, and overweight at all ages. Thus, to reduce the risk of stigma, public health campaigns (community-based interventions - at home, in schools, at work and in the media) should focus on messages promoting healthy lifestyles for all ages, regardless of weight, and avoid making weight the main focus of their messages. This approach can create a less shameful culture, it can also start at the community level with grassroots actions to encourage more inclusive and accepted cultural norms around bodily appearance.

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4. Historical and cultural perspective on obesity and body image in Portugal

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Abstract: Portuguese adolescents and young people are subject to normative discontentment related to body image perception. This perception is subjective and influenced by several factors including mass media communication or social media messages. To aggravate this situation, we live in a pro-obesogenic era. Advertising for unhealthy food facilitates excess body weight which in turn contributes to body dissatisfaction and to the manifestation of eating disorders. We analyzed the covers of printed magazines from the last 13 months to understand how body image is portrayed in actuality. Of the total magazines, 29% have messages related to beauty culture. Some of them were related to weight or body shape such as “body in shape” (“Corpo em forma”), and “prepare the body for summer” (“prepare o corpo para o verão”). Only 15 (9.4%) of those magazines are assisting the slenderness culture: “Easter without gaining weight” (“Páscoa sem engordar”), “After holidays lose weight” (“depois das férias perder peso”), “do not come back with more weight from holidays” (“não volte com mais peso das férias”), “loose weight for once” (“emagreça de vez”), and “loose x kg in y weeks (“emagreça x kg em y semanas”). From the total of magazines, 8.5% (14 magazines) were identified as having body shaming, inducing that a change was necessary to have a desirable body. Despite these results, excess body weight is still a target of social stigma and bullying at scholarly levels. However, movements of body positivity and TV shows increasing awareness of how stigma affects people suffering from obesity and eating disorders are becoming more common opening space for improvements in the next years, that will undoubtedly need a multidisciplinary integrated approach in order to succeed.

4.1 Introduction

Portuguese society, like other contemporary western societies, is strongly marked by the conditions of postmodernity as described by Giddens (1). In this scenario, Portuguese adolescents and young people are subject to the influence of dietary patterns and models, and body conditions. In Portugal, the transition to post-modernity took place very quickly. As a result, traditional and post-modern conditions, like body image perception, coexist and aggravate the situation. Traditional models and beliefs such as the idea of “Fat is Beautiful” [“Gordura é formosura”] and “What is foreign is better” negatively influence the behavior of young people and compromise the desirable communication (namely in traditional and social media) between generations, which, in turn, encourages attitudes of social disruption and adoption of extreme behaviors, like anorexia.

Global obesity levels have been increasing over the past 4 decades (2). People with obesity often suffer from stigma associated with their weight. Weight-based discrimination is one of the most common forms of discrimination. Recently, several medical associations and institutions worked together on a “Joint International Consensus Statement for Ending Stigma of Obesity”. In their consensus, they recognize that individuals with obesity face not only an increased risk of serious medical complications but also a pervasive, resilient form of social stigma (3). Despite affecting diverse ages and backgrounds, women are generally more likely to suffer weight-based discrimination compared to men.

Body image is defined as “the multifaceted psychological experience of embodiment” (4). Perception of obesity and body image varies through time and geography, and so does the subjective understanding of who is obese and the consequences of obesity and body image in health.

The perception of body image is subjective and involves a person's thoughts, emotions, and imaginations. Society-level concepts and culture-specific notions about physical appearance are also involved (4).

Popular adages are good examples of old times perception of obesity. In Portugal, there is a proverb that says “*Gordura é formosura*”, which can be translated as “Fatness is goddess”. A few decades ago, when food security was not democratized, only the richest were fat, while the rest of population was facing hunger, undernutrition, and other diseases. During these times, the cultural perception was that being obese was not only healthier but also prettier. Nowadays, being obese is correlated with several chronic diseases, and it no longer is perceived that “Fatness is goddess”(5). In fact, obesity is frequently associated with dissatisfaction with self-body image and social discrimination.

Body image dissatisfaction is generally associated with dissatisfaction by excess, although in some cases, and particularly in men, there is a dissatisfaction by defect, that is, a desire to increase body size. The dissatisfaction by excess, which is reflected in a desire to reduce body size, may be based on several factors. The cultural stereotypes that are created concerning physical appearance and an ideal of beauty, largely coming from mass communication, play a determining role. When these factors are not addressed in the best way, they can lead to eating disorders, especially in young people.

Factors often occurring in adolescence that may drive body dissatisfaction

Adolescence is characterized by rapid and significant changes in the body, characteristic of puberty, and which occur at a rhythm of their own, which may not be the same as those seen in their peers and friends (6). Overestimation of role models, identifying ideas of beauty in friends, or even in media personalities may lead to comparisons that can be a source of frustration.

Studies conducted in Portugal also showed that young women, girls, and teenagers, who present bigger concerns with body image are more prone to feel sensitive to body dissatisfaction. In a cross-sectional observational study with 323 adolescents from three schools in Portugal, dissatisfaction with body image was present in 34.4% of the inquired. Despite most adolescents having an adequate body mass index, 61.5% of them were dissatisfied with their body image (7).

Besides body satisfaction, recent studies have been focusing on facial satisfaction, namely on satisfaction with the appearance of their eyes, nose, facial shape, and face overall. In The U.S. Body Project, face satisfaction and body image were presented as different constructs with a weak to moderate correlation between them. However, both facial and body image dissatisfaction were aggravated by general anxiety or by perceived pressure from sociocultural concerns (8). The “Face Q-satisfaction with facial appearance overall” instrument, was recently validated in the Portuguese language in Brazil (9), and the same may occur in Portugal bringing more knowledge to how facial satisfaction is affecting the Portuguese Youth.

Cultural stereotypes regarding physical appearance

The beauty culture is related to and intersects with the theory of female objectification described by Barbara Fredrickson and Tomi-Ann Roberts in 1997 (10). The theory of female objectification postulates it is the education of girls and women to adopt a vision of themselves that leads them to treating themselves as an object of observation and physical evaluation by the other (11). This type of objectification can easily lead to body dissatisfaction, especially when women take into account the cultural norms for thinness and beauty.

In a study published in 2013, Castro and Osório conducted research aiming to analyze content produced by a group of Portuguese-speaking pro-anorexic adolescents. In this qualitative exploratory study, 11 Portuguese-speaking blogs written by teenagers were examined. For several months, interactions and the content of the blogs were analyzed to deeply understand the “pro-anorexia” movement in Portugal. Pro-anorexia, also called “pro-ana” is a social movement where individuals suffering from eating disorders find in digital places a way to bond with others with the same disorders without judgments found in the outside world (12). This was also a way to connect without having to meet in person, which in Portugal usually is associated with meals and food time. Going out for a coffee/ drink or dinner is part of the Portuguese culture and a typical way to bond (13).

In these blogs, it was possible to find information about diets, tips and tricks, exercise and fitness routines, information about drugs, medical experiences, and health problems. Also, pictures, videos, music, and quotes that could be seen as “thin inspirational” were commonly shared. Content could go as far as sharing suicidal thoughts and self-harming practices.

Testimonials of these teenagers, aged between 13 and 19 years old, also evidence of how celebrities were seen as body image models and how their parents, peers, and cultural and social pressures were perceived by them. An example translated in this study shows how dieting and body image was perceived as crucial to having social acceptance: “I think I’ll manage to eat till 800 calories or less. I must do so. It’s my life at stake. The way people see me and the future” (12).

School seems to represent a big pressure with some teenagers feeling the urge to lose weight in order to avoid bullying. A study conducted in the Portuguese region of Bragança showed that one in every four children was a victim of bullying. Testimonials from these victims illustrate a fear to go to school (14). Although bullying can assume many forms, body image is often a topic of aggression.

Also using a convenience sample of teenagers (14 to 18 years old) from two secondary schools in Portugal it was shown that adolescents revealed attitudes that put them in a situation of increased risk for eating disorders and revealed that the drive for thinness – i.e. the desire to be thin – was the most relevant attitudinal dimension (15).

Body dissatisfaction and ultimately the development of eating disorders can be triggered by a slenderness idealization portrayed in media advertising and social media images. To better understand how women’s bodies are depicted in local culture, a quantitative and qualitative analysis of local magazines was conducted by the authors of this chapter.

4.2 The slenderness culture: a case-study of magazine covers

Methodology

We conducted a case study of the printed magazine covers in the women’s/fashion segment to understand how body image is portrayed by them.

The women’s/fashion segment is the second segment with the highest paid, digital, and printed circulation in Portugal, just after general information. According to the Association for the Control of Drawing and Circulation (APCT) during the year 2021, 8969 digital and 1224389

copies were sold in this segment. Men's segment which is represented by the magazine with the same name "Men's health" sold 8925 digital and 57816 printed copies (16).

From the women's/fashion segment, 10 magazines are listed: Activa, Elle, Happy Woman, Lux Woman, Maria, Máxima, Revista Cristina, Saber Viver, Telenovelas and Women's Health. We intended to choose those with the highest circulation, but since only 5 of the 10 magazines had data about the magnitude of circulation, those were the chosen ones. They were Activa, Maria, Saber Viver, Telenovelas, and Women's health. The analysis of magazine covers was conducted in late April 2022 and was related to the last year, i.e. from April 2021 to April 2022. As men's segment is represented only by one magazine this one was also included in the analyses.

Covers of the magazines were collected from official web pages, gathered in a single file, and analyzed by four independent evaluators. Evaluators were professors of dietetics and nutrition and researchers in the field.

Evaluators were asked to analyze whether or not they considered the magazine cover as representing a slenderness culture, if it contained expressions that could be perceived as body shaming, if it conveyed messages that promoted a healthy diet and if the bodies represented were considered underweight, normal weight, or overweight. In case of discrepancies between evaluators, the evaluation of the majority was the one considered.

Body image and headlines of Portuguese magazine covers

The magazines analyzed represented a total of 159 samples. Of these, a total of 103 (64.8%) have on their cover a photo where an evaluation of the body image is possible. The remaining have only face images or captions from TV shows or soaps where body image was not easily accessed.

Of the total of magazines with a body image possible to be analyzed, in 100 of them (98%), the cover was evaluated as depicting someone with normal weight.

In addition to some subliminal messages possibly perceived through the body photo, we also analyzed the written messages present on these covers. Of the total magazines, 29% had messages related to beauty culture. Some of them were related to weight or body shape "body in shape" ("*corpo em forma*"), "prepare the body for summer" ("*prepare o corpo para o verão*").

Only 15 (9.4%) of those magazines were assisting the slenderness culture, such as "Easter without gaining weight" ("*Páscoa sem engordar*"), "after holidays lose weight" ("*depois das férias perder peso*"), "do not come back with more weight from holidays", ("*não volto com mais peso das férias*"), "loose weight for once" ("*emagreça de vez*"), and "loose x kg in y weeks" ("*emagreça x kg em y semanas*").

From the total of magazines, 8.5% (14 magazines) were identified as having body shaming, inducing that a change was necessary in order to have a desirable body. "Stop being thin" ("*deixe de ser magro*"), "improve your body" ("*melhore o seu corpo*"), and "tips for tall, short or short legged men" ("*dicas para Homens magros, altos, baixos ou com pernas curtas*").

At the opposite end, 22 (13.8%) had positive messages of healthy eating like: "healthy lunchboxes" ("*marmitas saudáveis*"), "healthy diet, what to eat and drink" ("*alimentação saudável, o que comer e beber*"), and "towards summer, special healthy eating" ("*rumo ao verão, especial alimentação saudável*").

Despite all these messages, we also have some references to body positivity headlines such as: "body positivity and the movement of women who do not want to be perfect" ("*body positivity e o movimento das mulheres que não querem ser perfeitas*"), and "liking our body is learnable" ("*gostar do nosso corpo aprende-se*"); other positive messages like "celebrating the singular beauty" ("*celebrar a beleza singular*"), and "beauty, what I learned with my daughter" ("*beleza o que aprendi com a minha filha*").

For a more comprehensive analysis, we divided the magazines into three subcategories: one was focused on the summary of TV soaps or melodramas; another one focused on the female lifestyle and the last one was the male lifestyle.

There are some differences in the categories: Soap magazines, and magazines considered related to women lifestyle or to fashion.

Soap magazines are the ones that focus less on all the items, beauty cultures, healthy diet, and body shaming. Beauty culture is mentioned in 5.3% of the total of these magazines. Also, 5.3% of them were identified as inducing body shaming, 8.0% have beauty culture, and 7.1% have mention to healthy eating.

From 26 magazine covers identified in the women lifestyle, 38.5% have beauty culture. 0% slenderness, and body shaming, and 19.2% healthy diet. In the fashion category: women's health, from 7 magazines analyzed, 85.7% (6) have a beauty culture, 14.3% have a slenderness culture, and 42.9% body shaming, and 42.9% healthy diet.

In the men category, and from the 13 covers analyzed, 11 (84.6%) were assumed as promoting the cult of beauty, 38.5% slenderness culture, 38.5% body shaming, and 46.2% of covers have allusions to healthy eating.

Other expressions were identified in this analysis not related to the initial goal, but also focusing on the body changes or anti-aging tips. Examples include: "hair in the body, how to eliminate them" ("pêlos no corpo, como eliminá-los"), "against wrinkles" ("contra as rugas"), "hair that will be fashionable this summer" ("*cabelos que vão estar na moda este verão*"); some of them are anti-aging: "riddles and acne, the solution" ("rugas e acne, a solução"), "younger skin" ("pele mais jovem"), "new treatments to rejuvenate skin" ("*novos tratamentos para rejuvenescer a pele*"), "SOS, wrinkles and dark circles" ("*sos, rugas e olheiras*"), and "energy from 20 to 60, what to eat and how to train" ("*energia dos 20 aos 60, o que comer e como treinar*").

The majority of messages with beauty and slenderness were associated with summer: headlines like "happy belly in summer, without swelling" ("*barriga feliz no verão, sem inchaço*") or "enjoy the summer, body in shape" ("*aproveite o verão, corpo em forma*"), or either "lose weight on holidays, tricks that work" ("*emagreça nas férias, truques que resultam*").

We conclude that men magazines have more messages related with muscle and strength: "muscle, energy and health, what to eat between meals" ("*músculo, energia e saúde, o que comer entre refeições*"), "energy, what to eat throughout the day" ("*energia, o que comer ao longo do dia*"), "how to gain muscle" ("*como ganhar músculo*"), "more muscle, eat this" ("*mais músculo, coma isto*"), "the best meat, for your muscles" ("*a melhor carne, para os seus músculo*"), and "muscle, what you need to know to stop being skinny" ("*músculo, o que precisa de saber para deixar de ser magro*").

Also, we see an increase of these messages near the time of festive occasions like Easter or Christmas: "lose weight until Christmas", "Easter without increasing weight", "Christmas recipes", or "Christmas culinary".

It is also possible to analyze that some of the magazines opt for having photos of people showing a considerable part of their body/skin on most of their covers. Men without a shirt or in shorts or women showing their legs or abdomens, for example in swimming suits or training clothes are common in some magazines, and rare in others, showing some sort of editorial policy of the message conveyed in these magazines. The editorial policy is also visible when some magazines have more messages promoting healthy lifestyles than others.

4.3 Impact of mass media communication on the social stigma of people suffering from obesity or eating disorders

Assessing exactly how communication about body image has changed in the few past years is not an easy task. We can although look at how these topics are being addressed in the media today. Curiously, one of the main comedians in Portugal launched a program about the limits of humor where he addresses important topics like obesity, body image, and eating disorders, among others. In this program called TABU, Bruno Nogueira (17) spends an entire week co-living

with people suffering from these conditions. He is able to show the human perspective from the participants who talk about their struggles, either internal or external, resulting from social life and interaction with others and how that impacted their lives.

This type of show, streaming on one of the main Portuguese TV channels, and bringing these topics to the audience with some careful humor, can be a powerful way to impact social feedback, influence stereotypes, and improve people's empathy and awareness (18). If it also helps people with these conditions to increase self-acceptance, is a more complex topic. Despite not being the gold solution, interaction with a sensitive community is undoubtedly an important process to overcome any body distortion. Changing the perceived consensus on stereotypes about obese people has been proved to improve attitudes towards them and reduce bias (18,19).

Body dissatisfaction perceived by the individual – A case study testimonial



Fig. 1- Woman at a beauty parlour (Source: worldobesity.org)

Sara (fictious name) is a 23-years-old dietetics and nutrition student struggling with her body appearance and external judgments.

Before starting studies on nutrition and dietetics fields, Sara had never received education or orientation on how she should eat. Being raised by a single mother who worked a lot, Sara had never had a regular eating pattern. Her emotions had always interfered with her relationship with food leading to cycles of bingeing and excessive dieting. Bingeing episodes were also often followed by purging events like forcing vomiting. She had been overweight for almost all her life, and in adolescence, Sara was a target of bullying from colleagues at school due to her body image. This accumulation of events drew her to a depressive phase where she lost a lot of weight, which she gained back in a constant struggle with balance.

She decided to study dietetics to better understand how to deal with food, so she could change her reality and that of others who have gone through the same experiences. The need to be an example in her profession is driving her to change her diet and increase her physical activities. She feels that her professional skills as a dietitian are judged by her body image which increases pressure to have a better looking overall. Although her relationship with food has improved, feelings of external judgment and internal blame still accompany her. Despite having

started to deal better with internal feelings of guilt, she is still sensitive to familiar or peer-pressure. Social media has also a strong role in reminding Sara that she doesn't fit in the "normal" and "perfect" stereotype bodytype.

Body positivity movement

The positive movement that first emerged in the 1960s aimed to highlight health challenges and risks as people conforming to standardized designed shapes, now supports and celebrates diverse body types (20). As it is known today, the Body Positivity movement appeared in the media around the year 2012, with the aim of changing unrealistic female beauty standards into an approach that is real to the current times. The movement is gaining popularity and at the same time some critics.

Criticism of the movement is based on the point that people disregard medical and health complications that are directly related to the development of chronic diseases such as obesity, diabetes, heart disease, and cancer. Many advocates of the body positivity movement criticize this correlation (21). However, this should not be ignored or left in the background.

The Body Positivity movement does not mean conforming to the body that society does not accept, but understanding and accepting how it presents itself, being aware that there are, yes, parts of the body that we do not like so much, even though we must choose to accept them instead of hating them. The era of social media seems to have exacerbated the fixation on body image, which leads to an increase in mental health problems and disorders such as depression, body dysmorphia, and anorexia (22).

Portugal and other southern European countries share common lifestyle conventions, beliefs, and beauty ideals, when compared to some northern European countries, those in the South tend to have stricter standards with the body figure. The average height and weight in these countries are generally lower than in the northern part of Europe. The plus-size mindset and movements that support body positivity and differentiation are still not very popular in these societies, especially among the young population. Although the average weight of people in southern Europe has increased over the last decade, the fashion industry continues to ignore it (23).

In the battle for body acceptance, new movements emerge with similar ideas, but which go beyond the body such as body neutrality, which advocates the idea that we should look at our body as it is, from a functional perspective as opposed to appearance. It is a social movement whose objective is to reduce the great significance given to physical attractiveness in our society (24).

The relationship that is built with our body is complex and it becomes difficult to summarize it in a simple affirmative or negative answer when asked whether or not to accept it. Therefore, the main idea of body neutrality that has gained strength in recent years is to withdraw the attention and importance we give to the shape of our body and focus beyond it. Body neutrality offers an alternative to the well-known body positivity, which advocates the idea that we should love our body, as it is (Pedro, 2020).

Real women marketing campaign

A famous beauty products brand had implemented a marketing campaign that can be assumed as disruptive to the global body image of slimness. This brand uses the concept of "real women", hence women of different sizes and body shapes in their campaigns, and in addition, it offers body positivity, self-acceptance and self-esteem tools for teens, parents, and teachers on their website (Recursos para Pais e Encarregados de Educação (dove.com))(25). In the same way, some Portuguese famous athletes, actors, singers and social influencers introduce in their social media, TV, and media interviews, messages to promote health instead of slimness, to promote acceptance instead of "fighting" one's own body and natural shape. Their message is either explicit or implicit. These messages can be read, as example, in Instagram stories and posts of

Carolina Deslandes (@carolindeslandes – a famous Portuguese singer); Ana Guiomar (@anaguiomar.oficial - famous actress), Mafalda Beirão (@mafalda_beirao - digital influencer), and Catarina Corujo (@catarinacorujo – digital influencer, also known as body healer). Pictures of own body with no filters and where visible, body and skin imperfections are posted. Texts focusing on the importance of self-esteem, self-acceptance, and fighting body-shaming messages are frequent in these profiles.

This approach has been studied by researchers recently and if on the one hand, it increases mental and emotional health and social acceptance (26), on the other hand, it seems to create a new pressure on women to 'love' their bodies, and therefore may make women feel worse about themselves if they do not; in the same way, it is mentioned that such content still focuses on appearance and thus may merely perpetuate the underlying issue in the first place – by keeping the focus on the body. Even of greater concern is the result of some studies that suggest body positivity encourages obesity by 'glorifying' unhealthy habits. In a similar vein, some authors asserted that the normalization of larger bodies is contributing to the prevalence of overweight (27), or the misperception of normalweight (28). No scientific consensus on this topic exists yet (29) and further research is needed.

Pro-obesogenic environment – Digital marketing of unhealthy foods

Marketing is the activity, set of institutions, and processes of creating, communicating, delivering, and exchanging offers that have value for customers, partners, and society (30). Marketing activities should benefit society as a whole. With the different consumer needs, the market must be divided into segments so that companies can plan and position the product and its respective marketing. In this perspective, the contextualization of marketing in a digital context is associated with a diverse promotional component. A digital media maximizes the impact through creative and analytical methods (31). Strategies are created to facilitate response and adapt marketing to the customer to segment the market. Unlimited access to the Internet and other forms of digital marketing allows immersive, interactive, and integrated marketing strategies (32).

Digital marketing replaces several diversities of traditional marketing, creating more effective and dynamic strategies for industries. Furthermore, digital marketing is an instrument of communication through the Internet. It addresses several tools that serve as a bridge between brands and customers, as a way to help brands to establish a simple and clear communication with their customers (33).

In the universe of the food industry, the impact has been overwhelming. Digital marketing does not only replace other more traditional forms of food marketing, but also complements and amplifies its effects. It increases brand presence across broader and more diverse media, resulting in more excellent brand and product awareness (34). As a result, companies are shifting their advertising spending favoring digital marketing, where customers can be reached and engaged, particularly on social media platforms (35).

The increased use of digital media and the amount of time people spend online results in a shift away from advertising that is now bought programmatically. Programmatic digital media allows individual targeting of advertising impressions, which can substantially affect consumer behaviour. Food companies are increasingly using social media to market. Influencers and social media marketing considerably influence the general public's food choices and subsequent intake, emphasizing children and young people. A significant investment in food-related advertising was observed in Teixeira, Holzer and Barbosa study in 2021 (33), with 35% of advertising promoting food and drink and a significant proportion of advertisers being food-related. This study also shows that most influencers' videos featured food and drink cues (60%), which equated to an average rate of 13.5 per hour. These studies, which evaluated food and drink cues featured in YouTube videos and Instagram posts shared by teenagers, showed a higher prevalence of food and drink (92.6% and 85%, respectively) (33).

The Digital 2020 report – published by We Are Social and Hootsuite – shows that digital, mobile and social media have become an indispensable part of everyday life worldwide. More than 4.5 billion people were using the Internet at the start of 2020, a 7% increase compared to January 2019. Regarding Portugal, in January 2020, 8.52 million of Portuguese were Internet users and, in 2019, they spent 6 hours and 43 minutes per day in online activities. If we consider about 8 hours a day to sleep, Portuguese people currently spend, on average, more than 40% of awake time using the Internet (36).

It has been widely recognized and demonstrated by scientific community that marketing of unhealthy foods is contributing to obesity in children (37,38), and Portugal transposed for national legislation a European Directive about marketing regulation. The Law no. 30/2019 of 23 of April introduces restrictions on the marketing of foods and drinks that are calorie dense, nutrient-poor and high in salt, sugar, saturated fat and trans fatty acids intended to a segment audience of children under 16 years old (39). This Law is very evident regarding advertising channels and clearly includes the Internet as one of the possible advertising vehicles, in Article 20-A, point 2- , paragraph d): “On the Internet, through websites or social networks, as well as in mobile applications for devices that use the Internet, when their contents are intended for children below 16 years of age”.

Despite this, many Portuguese children seem to continue to be targets of these advertisements, as shown by Bica et al (2020) (40), in a Portuguese exploratory study of food marketing in digital platforms. The authors concluded that 60% of the 68 YouTube videos analysed included food and beverage cues, of which 70% were classified as less healthy, and the most frequent featured products were ready-made and convenience foods (23.1%). Because of the importance of the Internet for the Portuguese and the growing trend, it is essential to understand online consumers' behaviour, namely the impact of digital marketing activities on their consumption and purchase decisions. This Portuguese study showing that children exposure to unhealthy food advertising is still happening in Portugal, with possible negative consequences for body weight and increasing the risk of developing some form of eating disorder.

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5. Humanities perspective on obesity and eating disorders (EDs) in Romania

Body image and shame

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Abstract. *Shame as emotion and as experience has been notoriously difficult to define. In his seminal study on shame, Kaufman calls it “this most elusive of human affects” [1] and observes that, after being overlooked for an unaccountably long time by psychologists and psychoanalysts, shame has gained a central place in the contemporary sociological and psychological discourse. This change, Kaufman notes, can be linked to the widespread acceleration of emotion-based behaviours, from addictions to eating disorders. Before focusing specifically on the connection between shame and body image (that is, (self-) perception of fatness), we shall provide a concise discussion of some general characteristics of shame, its social and cultural dimensions, and then certain particularities that can be encountered in Romania.*

Key words: body image, shame, body objectification, stigma

5.1 Introduction

In their attempt to define shame as clearly as possible, many theoreticians have focused on the differences between shame and guilt, since these two terms are not rarely used interchangeably. Unlike the latter, which refers to an action that is deemed to be morally wrong (what we have done), shame is about our sense of identity (who we are). The importance of shame in identity formation can hardly be overestimated. Kaufman considers that no other affect plays such a key role in it, influencing, to a decisive extent, one’s sense and assessment of the self, hence the relevance of studying it in order to better understand identity in contemporary society. As Kaufman puts it, “answers to the questions ‘Who am I?’ and ‘Where do I belong?’ are forged in the crucible of shame” [2].

Shame is always accompanied by disturbingly negative emotions which have a very powerful effect on the self as a whole. Mario Jacoby observes that, since shame can be the result of a devaluation of the self (by others and/or by oneself), “[it] always brings a loss of self-respect” [3], while Stephen Pattison points out that “the shamed person is likely to feel a sense of personal collapse that implies the loss of self-esteem and self-efficacy” [4]. As outward manifestation, shame can translate into a sense of anxiety, anger, humiliation which might lead to potentially distorted self-perceptions and actions (such as avoidance, withdrawal, isolation).

As far as this last aspect is concerned, Paul Gilbert observes that shame can be understood in terms of “interpersonal dynamic interrelationships” involving a “shamed” and a “shamer” [5]. Indeed, shame would be inconceivable without the existence of a judgemental other, in whose eyes the “shamed” perceive themselves as flawed, inferior, unworthy. Tangney, following Lewis, highlights the importance of the social dimension of the experience of shame, pointing out that this experience does not necessarily require the actual presence of an other, since there is an internalised imagery of “how one’s defective self

would appear to others” [6]. This ‘other’ is always, in this case, disapproving and harshly judgemental, leading to profoundly negative evaluations of the self. Tangney uses rather strong words when she describes the effects of such an experience: “When people feel shame over a particular failure or transgression, they are berating themselves not just for the specific event; rather, they are damning *themselves* – the core of their being – as flawed, useless, despicable. In this way, shame experiences pose a tremendous threat to the self” [7].

The concept of the ‘judgemental other’ requires certain clarifications, in the sense that it has acquired additional meanings in contemporary times. Traditionally, such an ‘other’ implied a more direct interaction between the shamer and the shamed, to use Gilbert’s terms. This meant that the latter *saw* themselves in the shamer’s eyes as being flawed, useless, unworthy. That is why early theoreticians of shame, such as H. Lewis, observed that “central to the shame experience is the ‘self-in-the-eyes-of-the-other’ ” [8]. Nowadays, due to the use of social media and its global reach, one can note, in this context, two major changes: on the one hand, the cultural dimension of shame has lost, to a considerable extent, its regional or national specificities; and, on the other hand, the ‘other’ as the instance that dictates certain norms and standards to be followed, has acquired much ampler meanings. This holds true particularly when it comes to one distinct form of shame, namely body shame.

As regards the former, most discussions on shame highlight the fact that every culture experiences shame in a different way. Kaufman, for example, ascribes culture the same importance as family and peer group when it comes to personality formation. “Culture is the fabric that bonds a people together, the web of meaning created out of national symbols and traditions”, playing a decisive role in our identification need and sense of belonging [9]. As regards shame, cultures, Kaufman observes, “pattern shame quite distinctively” [10]. These distinctions range from the causes that might explain feelings of shame to manifestations, behaviours, and methods of contrition. When it comes to body shame, as mentioned above, one can note a marked tendency towards the uniformization of shaming factors and instances, aspects which lead us to the second major change that occurred in the last decades, namely, the meaning of the ‘other’, of the shamer. The extensive use of social networking sites has dramatically increased the possibility of (self-) objectification, which can easily lead to shame. Even before the emergence of social media, psychologists of shame observed that shame implies “a sense of being looked at or *seen*. One seems to become an object in a visual field [...]. The sense of being seen metaphorically represents the sense of being judged or assessed. This is often also accompanied by a tacit internal monologue of self-criticism”[11]. The (self-) objectification of the body has reached unprecedented levels, providing propitious ground for developing body shame and its accompanying negative emotions.

If, as so many psychologists have pointed out, shame shapes the sense of self, and the body is an aspect of the self, then experiencing one’s body as unattractive, too large or in any other way below the accepted standards can generate a whole string of negative emotions of disparaged self-perception. Since our times are driven by considerations largely based on appearance, body shame experience is an extremely common phenomenon. Idealised images of the human body, which infuse social media websites, cause all sorts of anxieties, such as appearance anxiety or social anxiety. This is no longer a culture-specific phenomenon, but rather, it has reached global proportions. One can note this uniformization not only from a geographical perspective, but from a social one as well. If, in the past, fatness could be encountered largely (if not exclusively, in some cultures) among the wealthy social stratum, contemporary times have brought a levelling in terms of the people affected by it – the social and financial status is no longer a decisive factor.

5.2 Shame and control

The question of control, closely connected to the concept of shame, has, in this context, a double meaning. First, shame can be used as a tool, as means of control by a society. As Pattison observes, “both shame and guilt perform important, if somewhat different, roles in social and individual control, according to social structures, norms, and expectations” [12]. Second, it relates to one’s very complex relationship with one’s self, in the sense that this relationship, as far as eating, self-perception of the body, etc are concerned, is no longer harmonious, symbiotic, but rather one of control, one in which the subject transforms their own body into an object, a mere silent executant of one’s will, one’s desire to shape it according to general standards. From this point of view, the natural concern for one’s looks has acquired different proportions and meanings. Since the domain of the judgemental ‘other’ has expanded to an unprecedented extent, the question of keeping one’s appearance under control has gained paramount importance, becoming an imperative, in terms of controlling what is seen by others. Speaking of this need to control how one is seen by others, Dolezal defines it in terms that might seem to belong to the financial sector, thus betraying the distorted character of the relationship with one’s body that is so prevalent in contemporary times: “Self-presentation is a term that indicates conscious and unconscious strategies for controlling or managing how one is perceived by Others in terms of both appearance and comportment. Self-presentation, also commonly referred to as impression management, is, in part, a response to the embodied subject’s concern with the Look, gaze or judgemental, and perhaps punishing or ostracizing, regard of Others within social relations” [13]. This “impression management” is fuelled by the constant need for validation, ubiquitous on social media websites. Failure to comply with the norm, accepted, virtually, at the global level, frequently leads to the perception of the body as a burden, a nuisance, as the cause of defectiveness and, ultimately, a sense of shame and rejection.

Yet, given the emphasis placed on a certain body type, the proliferation of ‘expert’ advice and recommendations on weight management, and, virtually, the availability of a wide range of foods – all these aspects provoke not only a sense of shame, but also of guilt – hence the element of self-blame in eating disorders, the perception of the body as a liability, as well as the continuous struggle to keep it under control. The body has come to be objectified and alienated, since it is turned into the passive recipient and executant of one’s wish to transform it into the imagine generally promoted as acceptable, if not desirable. It has been reduced to mere surface, to what is seen by others, as Dolezal observes:

The seen body is the surface of the body as regarded by Others (or oneself), or from some distanced perspective. Visibility of the body, in this sense, can arise in intersubjective encounters where one experiences the distanced, judgemental or antagonistic gaze of another. In these experiences, appearance or comportment is brought to thematic awareness in a negative and self-conscious manner. Objectification and alienation become possibilities which can disrupt the flow of social relations or the flow of one’s motor intentionality [14].

One might also add that, due to the proliferation of (mostly voluntary) exposure on social media, one’s body has undergone a process of *self*-objectification as well, adding to the distorted dimension of one’s relationship to one’s body, mentioned above. The body has become, thus, to an unprecedented extent, a social construct, bound to comply with certain requirements, which explains the widespread incidence of body shaming and the flourishing industry of dieting.

5.3 Body shame in Romania

In her study on *Fat Shame*, Amy Erdman Farrell confesses that her initial research interest, when starting the volume, was in the history of dieting. The first diets and the first signs of stigmatising fatness and fat people can be found, according to Farrell (who disagrees with those who place the beginning of the dieting industry in the 1920), in the last decades of the nineteenth century. Seeking to understand the curious meanings attributed to fatness, Farrell observes – with reference to the American culture – that, throughout their history, diets present striking similarities. Also, still from a diachronic perspective, Farrell notes that “the authors of weight loss tracts and the advertisements for weight loss products articulated anxiety, scorn, even outrage toward the fat they promised to eradicate”. Historical documents on the topic reveal the negative connotations attributed to fatness and fat people (considered to be “lazy, gluttonous, greedy, immoral, uncontrollable, stupid, ugly, and lacking in will power”). In this sense, Farrell makes an interesting observation: “In all of them [all the diets in the past] fat is a social, as well as a physical problem; in most of them, the social stigma of fatness – and the fantasy of freeing oneself from this stigma – coincides with or even takes priority over issues of health” [15].

Unlike other countries, dieting does not have a very long history in Romania. Despite the sparsity of official documents or studies on the topic, one can infer that body image and body shame had different connotations. On the one hand, due to the social and economic particularities in the nineteenth and twentieth centuries, the question of fatness vs thinness was mainly perceived in terms of economic status. In most Western countries, what today might be called a ‘fat body’ was considered, until not many decades ago, as indicative of financial abundance (or at least security) and, sometimes, a sign of good health. As Farrell points out, “until the late 19th century, fatness was generally a prerogative of the few. One had to have both wealth (meaning one had sufficient food and physical leisure) and health (meaning one was free of the diseases that wasted away bodily flesh) in order to maintain a hefty body. As such, fatness was often linked to a generalized sense of prosperity, distinction, and high status” [16]. If, as Giddens observes, “the pre-established connection between a corpulent figure and prosperity had virtually disappeared by the end of the first two or three decades of the twentieth century” [17], this conviction, one might argue, continued in Romania until the fall of communism.

On the other hand, traditionally, the concept of dieting, in the sense of abstaining oneself from eating, bore religious significance. Fasting and other forms of depriving oneself of any kind of pleasure was inscribed in a more general and profound pursuit of moral and religious values. As Giddens observes, “Fasting, and the self-denial of various kinds of foodstuffs, have obviously long been part of religious practices, and are found in many different cultural frameworks [...]. Female holiness achieved through food deprivation was particularly important” [18]. This aspect was, therefore, present in many cultures up to the accelerated development of the dieting industry, beginning, roughly, with the twentieth century. Also, fatness was regarded, from a religious point of view, as a sign of gluttony and materialistic tendencies. Yet, if, in other cultures, it has been largely replaced by preoccupation with one’s appearance, fasting for religious purposes continues to be quite common in Romania, sometimes being included in a dieting regime. Giddens inscribes this shift (from fasting as a religious practice to ‘fasting’ for losing weight) in the more general (and generalised) process of secularisation which characterises contemporary times.

This relatively recent preoccupation with weight loss has led, in Romania, to a quite different relationship with food as well, admittedly much later than in other countries. In the last few decades, the traditional Romanian diet, based largely on carbohydrates and meat consumption, has raised several concerns regarding its effects on health. This challenge, together with a considerably wider choice of foods and with the rather aggressive proliferation

of fast food advertisement, has led, especially in the urban population, to an increased consumption of foods that can cause fatness or even obesity. This, too, has become a generalised phenomenon, irrespective of social status, age, or financial situation. Unfortunately, there are very few studies that focus on the specificity of body image, self-perception, fatness and dieting in Romania. In spite of this, what prevails, in the context of body shame, can be inscribed in the same need for validation, recognition, acceptance, and a sense of belonging, which influence intersubjective relations and one's relation to one's body. These aspects have led to an alarmingly rapid proliferation of bullying based on appearance and body image. Hence the increasingly common incidence of eating disorders and psychological problems related to body shame, all of which betraying an underlying hostility towards the self and the body. Dolezal observes that "body shame is intimately linked to the powerful fear of stigma and social exclusion. It acts as a mechanism of sorts that ensures one's recognition and belongingness within a social group" [19]. The need to belong, coupled with a sense of insecurity as regards the general expectations and the possibility of being ostracised – in 'real' life, as well as on social media websites – can cause anxiety about being out of norm or behaving out of the accepted line. This anxiety often manifests itself as self-consciousness (which is closely linked to shame), embarrassment (being perceived as socially inadequate), and a debilitating sense of inferiority. The paradox is that while, on the one hand, one seeks to avoid 'invisibility' in one's group, especially on social media, on the other hand one might get shaming responses from judgemental others, which triggers, by definition, the desire to become invisible to others.

One prominent feature of shame, according to its theoreticians, is that, as experience, it is linguistically elusive. Pattison observes that it is "a relatively wordless state", often accompanied by "acute individual isolation [...]. One is trapped in the self without words and without people" [20]. This is one of the reasons why more attention needs to be paid to the particularities of shame triggers and body shaming in the Romanian culture, in order to address this increasingly common problem, and the sense of disempowerment, confusion and helplessness that it causes, because, as Dolezal points out, "shame, and overcoming shame (which is often centred on the body), has a central role to play in terms of the validation of subjectivity, both personally and politically" [21]. Body shame and fatness requires more presence in fiction as well. There is a striking discrepancy between the number of people who suffer from them (physically and psychologically) and the scarcity of 'fat' characters in fiction. This, too, might help raise awareness and acceptance, ultimately contributing, if not to the eradication, at least to an alleviation of the debilitating effects of body shame, which penetrate and influence one's self, one's identity, one's entire life.

The slenderness culture or driven to perfection

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Abstract. *The desire for good looks translates into various options across the diverse cultures of the Globe. For some populations, a good-looking body has a BMI of over 28, while for others it is expected to be around 18. North American and European nations regard slenderness as the ideal body, oftentimes imitating stars and idols.*

Key words: slenderness, body image, anorexia

5.4 The human body – mythology, the arts, and cultural perceptions

The arts have exploited the human body and have used it for various purposes ranging from dance to sculpture in all of its instances: birth, growth, and death. Once self-awareness reached a higher level, humans started painting bodies on rock, Le Roc-aux-Sorciers being one of the major Upper Palaeolithic sites of Europe, depicting bodies and faces, presenting both self and the other [22]. The Ancient Egyptians took body admiration a level further by mummifying bodies. If initially mummification was a natural process occurring due to heat and sand, artificial mummification became a ritual practice to preserve the dead bodies for afterlife with the use of resin and linen in order for physical preservation [23].

The human body has also served as a parchment for marking identity in terms of gender, age or political status, the skin becoming meaningful in various cultural contexts from body tattooing to cosmetic surgery. Cultural expressions of body tattooing can be found in diverse ethnic groups, but not only, across the globe from the Māori for whom they represent the traditions and philosophy of the group, to the Polynesians for whom tattooing stands for the multiplication of the body and the connection between persons and spirits, the human and the divine [24]. The female members of Kayan tribes in Malaysia use traditional tattooing as ties to their heritage with designs according to their social status [25], whereas those in Northern Thailand practise neck elongation with the aid of brass neck rings (Padaung) which, according to them, makes them more beautiful, but also protects them from kidnappers from other tribes [26].

Both Greek and Roman mythology are fertile grounds for exemplifying the preference for a slender body. Gods are depicted, whether in literature or sculpture, as powerful, muscular, well-built and fit, whereas goddesses are slender with delicate features. Venus, the Roman equivalent of the Greek Aphrodite, is associated with love and beauty, while Adonis is the synonym for a handsome man. Hyacinthus, for another example, was so beautiful that both Apollo and Zephyr fell in love with him. Heracles (Hercules in Roman mythology), the son of Zeus and Alcmena, has been the model and pattern of masculinity and muscle to this day, while his figure in painting and sculpture radiates virility and strength. Female figures of mythological sculptures are also rendered as slim, see for example that of Venus de Milo by Alexandros of Antioch or the 200 BCE one of Hera.

Various periods have reigned the eras of paintings. The works of Rubens include both slender monarch and noble women, but also well-build goddesses such as Venus, Diana, or The Three Graces who are probably not as gracious as their name suggests according to contemporary standards.

In terms of height, the human body has been depicted in all of its sizes as far as adults are concerned. In biblical representations, the defeated Goliath, the hyperbolic symbol of brute force, is the opposite of David, who is of normal size, but supreme intelligence. Moreover, dwarfism, one of the many forms of skeletal dysplasia, is a symbolic occurrence in Jonathan Swift's *Gulliver*, which is in opposition to gigantism in the inhabitants of Brobdingnag where Gulliver looked like a dwarf among the giants.

The shape of the human body plays a distinctive role in sports. Within the boundaries of sumo wrestlers and gymnasts, all shapes and heights of bodies find a place. Even if Sheldon's classification remains controversial [27], being strongly linked to personality traits and not exclusively to body types, the three body types that can be identified in athletes are: ectomorphic bodies which are encountered in long-distance running, mesomorphic ones that are better suited for football or gymnastics, whereas rugby players or weightlifters belong to the endomorphic category.

In terms of cultural differences, beauty is indeed in the eye of the beholder. Western media, with all of their means: films, magazines, social media, even computer games, impose muscularity and virility as a male beauty standard. However, the Far East, Japan for example,

perceives male magnificence in the prototype of the sumo wrestlers, who are in fact obese and unattractive according to Western standards as opposed to the well-sculpted bodies of gymnasts. A parallel can be drawn, from this point of view, with female body beauty standards. Ranging from the gracious ballerinas, who are at the boundary of a healthy body mass index, gymnasts, tennis players to female wrestlers and weightlifters, all body shapes and fat to muscle ratios can be found.

5.5 The industry

Although cultural differences can be held responsible to a great extent, the industry plays a distinctive role in the consumer society. The toy industry has a great share in propelling the beauty standards of fit and slim bodies in children's toys. Children grow up with the ingrained belief that the Barbie doll and the male counterpart, Ken, produced by Mattel, are the ideal body shapes that society appreciates and expects from them. In real life, such ratios of a female body are rare to find. It has been estimated that if Barbie were a real woman, she would have a BMI of 16.24, in other words, an anorexic or cachectic body [28]. If Ken has a somewhat real and achievable body shape, though produced for girls, the other end of the spectrum finds the GI Joe doll, the copy of the hero of books and films, a marine gunner with a muscular and well-built physique. The doll was manufactured for boys, but Hasbro company discontinued its production in 1978 despite popular culture [29].

Another responsibility comes down to the clothing industry. Fashion has been subjected to serious metamorphoses over the last century. The mid-20th century beach fashion for women included a one-piece, should there have been two, the bottom was inevitably high-waisted covering approximately 40% of the body. In the case of men, more often than not, the one-piece was also fashionable. If a two-piece swimming suit occurred, the trunks were accompanied by a tank top. Much has changed over the years, a walk on the beach would bring into sight miniature bikinis, thongs, which are oftentimes half-mesh to leave something for imagination as well. And this is not only the case of female beachwear. What needs little explanation is the fact that the industry pushes buyers into the addiction of getting a slender body. Nevertheless, culture-bound beachwear does exist. Religion is sometimes stronger than the industry and haute couture. Tankinis and burkinis are produced with a certain target consumer in mind.

Needless to say that it is not only beachwear fashion that promotes slenderness. For another example, the catwalk of prêt-à-porter collections from Paris to Milan is almost exclusively the realm of anorexic models. It is almost impossible not to remember the fragile and almost skeletal looks of models such as Kate Moss. But again, this is not the norm for female models only, several male ones have been catwalk stars while suffering from anorexia nervosa. It is even more saddening that the condition has killed professional models.

5.6 Extremes in Romanian young women

Anorexia nervosa is characterised by the fear of gaining weight and is in fact a psychiatric condition. A study investigated two groups of patients, an anorexic one and a constitutionally thin one, with patients as young as 11.3 years old and mean BMIs of 15 in the anorexic group concluding that anorexic patients are highly likely to develop metabolic disturbances [30]. This distorted concept of acceptable female body size is making more and more girls and women unable to fit into the pattern and thus leading to maladaptive behaviour [31] which, for anorexic patients, translates into the goal of losing weight. Furthermore, another cross-cultural study found that thin Romanian young women appear as the norm versus normal-weighted ones [32].

Anorexia is not as rare an occurrence as it should be. Countless blogs of young girls who have been through it list all the pain and psychological effects it has, all the struggles that it implies, and the long-term consequences it leads to. Most often, the thought of being overweight becomes so ingrained that young girls start counting calories, resort to binge eating, barely have a couple of bites per day amounting to less than 300 kcals, all of these bringing on undesirable results, not only physical, but especially mental ones [33]. For most it is an unforgettable traumatic experience with visible effects such as loss of hair [34], weakened myocardium or stretch marks (striae).

Fasting and undereating are the means to an end in certain sports as well. Clear examples are the Romanian female gymnasts subjected to imposed fasting in order to reach an optimal weight. While female gymnasts achieved worldwide recognition in their field, behind the curtains, the scenario was dramatic. The girls were often weighed at least four times a day showing even the amount of water they consumed. Food was scarce and undernourishing, sweets were forbidden, and the training sessions were utterly exhausting [35]. Sometimes, they were so starved that they would ravage the kitchen during the night regardless of the fear of their trainer [36].

Many sportspersons, in order to attain the desired body, use black market substances or dietary supplements allegedly containing vegetal extracts (with caffeine), but oftentimes adulterated with various compounds, such as lipolysis activators, which would require a medical prescription (ephedrine, sibutramine, even amphetamine derivatives) [37]. It should be added that, for ethical and health reasons, many such supplements are banned by WADA (World Anti-Doping Agency) for professional sportspeople.

5.7 The media in Romania – painting a pretty picture

A distinctive role in the desire of achieving a slender and fit figure is played by the media. The picture that the media promotes is that of fit women, muscular men, athletic physiques, suntanned skin, whether on the cover of tabloids or on that of various magazines. Advertisement in this field relies on contracting famous personalities with amazing bodies to sell slimming products, dietary supplement, exotic holidays or other services. For one example, a former cover model of Men's Health magazine Romania, Adrian Nartea who subsequently played in TV series and reality shows [38], is currently in the advertisements for health insurance policies. With a slender and fit body, a height of 190 cm [39], Nartea is the embodiment of the ideal male shape.

Tabloid article titles are meant to be catchy and rely on phrases such as perfect body, hot looks, while covers boast articles such as 4 kilo weight loss in 7 days, how to get rid of cellulitis, drinks that lower cholesterol, the secrets of perfect and long-lasting tanning, vitamins and minerals that intensify dieting, and the list could go on [40]. When readers or television viewers are exposed to such titles and articles, no wonder that they metamorphosise into frustrated consumers who resort to any possible way or product to look like the models on the cover pages.

Another reason for which the media are greatly responsible is the promotion of weight loss substances which are advertised as miraculous potions that can give users the desired results in a matter of weeks and no significant effort in terms of dietary habit changes or increasing physical exercise. This type of promotion heavily relies on astounding-looking stars who allegedly use those particular products, making customers think that if they copy the dietary habits of their idols, they will slim down effortlessly and look glamorous and diva-like.

Cases of successful weigh loss in television stars flood the screens countrywide. One significant example is that of a television presenter who managed to lose over 60 kilograms. Teo Trandafir was visibly putting on weight due to hormonal disturbances, but the subsequent gastro-sleeve surgery helped her achieve the shape she had never had [41]. Another artist who

turned to the scalpel for a quick solution is the soprano Ozana Barabancea who managed to shed 38 kilograms [42]. Such success stories and their characters are so convincing that the consumer society would resort to any product or procedure to resemble the people displayed on television screens.

Nevertheless, slim bodies can be sculpted not only by medical surgeries, but by the art of plastic surgery as well which implies interventions such as liposuction, breast implants, facial lifting, buttock lift and augmentation, all for the sake of killer looks. While prices are exorbitant, television viewers and magazine readers sit helplessly dreaming of the ideal body [43]. It is not rare for celebrities to resort to such practices, probably because the media put such pressure on them that a healthier alternative would be too time consuming.

Another significant detrimental contribution to the desire of slimming down and looking slender is dominated by social media. What many consumers of social media fail to acknowledge is that stars and idols have a plethora of professional digital tricks to make them look fabulous and impeccable. For ordinary users, filters, mobile device applications abound on app stores, whether Google Play or App Store, with luring names such as Perfect Me, Best Body, BodyTune, TrimSlimTall, RetouchMe, to name just a few. Being readily available and easy to use, consumers think that the edited pictures of themselves depict reality.

5.8 Conclusion

In the current society, far from representing welfare of the individual, fatness can be perceived as aesthetics of ugliness and that of the lack of self-esteem. Paradoxically, in Western cultures, fatness somehow defines the lower class, while slenderness is associated with a certain financial background. The slender body exhibition that we see on television screens or in magazine articles has a ticket price. What people tend to forget and ignore is that methods such as surgeries or various supplements were designed with a consumer profile in mind. It is not such shortcuts which lead to quick results that should prevail, but lifestyle changes that include healthy eating and regular physical exercise in order to achieve the desired slender body. What consumers also ignore is the fact that beauty is indeed in the eye of the beholder.

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6. Humanities perspective on obesity and eating disorders (EDs) in Serbia

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Abstract. *This chapter explores the linguistic attitudes regarding obesity, EDs, and binge eating in Serbia. A survey was conducted in order to identify terms used for girls, boys, women and men who are obese or suffer from EDs. The important aspect is the comparison of terms used for children/adolescents and adults, and the evolution of attitudes reflected in the terms used for these two groups. The results yielded eight categories of terms that focus on different aspects pertaining to these individuals. Furthermore, three subcategories were recognized, which elucidated the attitudes ranging from neutral, to positive, to negative.*

Key words: linguistic attitudes, obesity, anorexia nervosa, bulimia nervosa, binge eating

6.1 Introduction

Processes of urbanization, industrialization and globalization, as well as a dynamic economic development, have significantly affected eating habits and lifestyle in general. On one hand, there are hypercaloric diets, characterized by excessive amount of fat, an insufficient intake of complex carbohydrates, fruit and vegetables, and sedentary lifestyle that together bring about weight gain and obesity [1]. It is believed that obesity is the most common chronic disease in children and adolescents, and it is becoming an increasing problem in Serbia as well [1]. Apart from contemporary diets, WHO offers several other factors that lead to obesity during childhood and adolescence – lack of physical activity, skipping breakfast, snacking (especially on sweets), eating away from home [2]. Obesity in adolescence can be caused by a variety of factors genetic, biological, cultural, behavioural, and psychological and it can be triggered by stressful events or episodes, such as parents' divorce or separation, changing a place of living, death of a beloved person, abuse, peer violence, etc. [3]. Mental disorders, such as depression, phobias, anxiety, or obsessive-compulsive disorder, can also cause obesity in this vulnerable period of life [4]. Adolescents usually gain weight by constant snacking or by occasional episodes of overeating which are induced by feeling bored, dissatisfied, tense, anxious or simply by sitting in front of a computer for hours [3].

Apart from gaining weight or becoming obese, adolescents are at risk of developing an eating disorder (ED) (e.g. anorexia nervosa, bulimia nervosa, binge eating disorder, etc.) as a consequence of disordered attitudes to food intake. Such attitudes are present in about 4% to 5% of adolescents, with a ratio of 6:1 to 10:1 in favour of female adolescents [5]. Such inadequate attitudes and matching behaviours (i.e. irregular or chaotic food intake) are usually triggered by excessive concern about body image (shape and weight in particular) [5]. Negative

body image and inadequate assessment of one's physical looks have become a standard in the countries with a high socioeconomic status (the USA in the first place) [6].

It is important to say that there have been no epidemiological studies of EDs in Serbia and, generally, there is a very limited number of studies that examine eating habits and attitudes to food in Serbia [2]. However, there have been several studies (mostly psychological) that researched body image satisfaction or willingness to implement a diet. For example, a study that was conducted in Serbia and Croatia in 2004 revealed that 14.4% of the girls who had taken part in the research were not satisfied with their looks, 34% were dissatisfied with their weight and 60% admitted they wished to be thinner [7]. Another cross-sectional study, which researched behaviours and attitudes to body image and EDs among female adolescents using the Eating Attitudes Test EAT – 26 questionnaire, put Serbia among the countries with the highest prevalence of EDs as 30.4% of the tested girls had achieved EAT – 26 scores over 20 [5].

When it comes to mortality rate and poor quality of life, EDs put adolescents in an even greater danger than obesity. These disorders leave serious physical, psychological and social consequences on affected individuals and a very small number of them (4% to 6%) seek and receive professional help [5]. In the Western civilization, fitness and thinness equal competence, success, sexual appeal, control, etc., whereas obesity is usually identified with laziness, self-sufficiency, and inadequacy [8]. This results in an ideal body image that is presented to adolescents through media, social networks, peers, and celebrities [9]. Chasing the ideal body image, adolescents may easily become obsessed with thinness which is biologically inadequate as it causes various physiological and social disorders, even death [10]. Due to this ideal body image, obesity is frequently stigmatized, so overweight or obese adolescents can be easily marginalized by their peers and are less popular [2].

This chapter presents attitudes to obesity and EDs in Serbia by exploring lexical terms used to describe individuals suffering from obesity and most common EDs. These lexical terms give us insight into cultural and societal expectations thrust on girls and boys compared to men and women. Even though in the discussion we rely on previous research and analyses, it is important to note that linguistic research of terms relating to obesity and EDs in Serbian has been non-existent as far as we are aware. Additionally, few studies (mainly in the field of psychology) have focused on attitudes to obesity and EDS in Serbia. Therefore, this chapter aims to fill this gap and widen the scope of understanding through a humanistic, i.e. linguistic perspective of these conditions in Serbia.

6.2 Research on obesity and EDs in young people – Serbian perspective

Obesity is defined as a chronic refractory disease caused by excessive fat tissue which has a negative impact on physical, psychological, and sociological health and wellbeing [11]. A person whose body weight is up to 20% above their ideal weight is thought to be overweight, whereas a person whose body weight is more than 20% above their ideal weight is obese [12]. When it comes to children and adolescents, obesity is defined as an increase in body weight above an arbitrarily determined value, taking gender, age and height into consideration, and it is thought to be caused by an excessive amount of fat in one's organism [13]. According to WHO, in 2013 there were around 42 million children (6.3%) below the age of 5 who were overweight or even obese and who predominantly lived in developing countries. It has also been noticed that the number of overweight and obese children is constantly on the rise, especially in African and Asian countries [1].

Serbia is no exception to the trend, as the prevalence of obesity in children and adolescents is constantly growing. There have been few studies in Serbia addressing obesity in young people or people's attitudes to obesity or obese people.

The most recent one is a cross-sectional study that involved 370 students from the Medical school in Valjevo (the region of West Serbia). It used a questionnaire to inspect eating

habits and anti-fat attitudes among adolescents in this part of Serbia. According to the author of the study, one of the most worrying results is a very high consumption of sweets and carbonated drinks. As many as 44% of the participants consumed sweets and snacks several times during the day, 82% consumed carbonated and energy drinks regularly, while 69% of the participants regularly ate bakery products. It is interesting to mention that the majority of participants (36%) collected information about healthy nutrition through the Internet, in discussion with their parents (33%), talking to their teachers (17%) and only 14% got their information from health professionals. The environment and the parents' level of education seemed to have the greatest impact on the differences between healthy and unhealthy eating habits. For example, students from urban areas from highly educated parents reported eating diverse and healthy meals. Also, male participants from urban areas with highly educated parents were more engaged in sports activities than others. Although only 22% stated they skipped breakfast, fear of gaining weight was more typical of female participants. Interestingly enough, 73% of participants never had a restrictive diet, which is completely different from the results obtained across Europe. Girls much more often reported they wished to be thin, while boys, on the other hand, admitted they wanted to be more corpulent. Finally, female students had a more negative attitude to obesity and overweight or obese people. [2]

Another study was conducted among students of a medical school and it included 307 students. It researched eating habits of young people [14]. The most important results include a high representation of sweets and snacks, better eating habits in male participants (they rarely skip meals, take more liquids, eat fruit and vegetables more regularly than female participants) and insufficient water consumption in 71% of participants.

A study by Halupka-Rešetar and Radić Bojanić researched animal names used in addressing people in Serbian [15] and some of the results are important for our study as well. They focused on the uses of animal names in Serbian in addressing people, both abusively and affectionately, expressing the speaker's attitude. The survey included 100 university students of linguistics. It was concluded that the transfer of animal names onto people was motivated by the transfer of some animal characteristics onto human beings [15]. The authors looked into four categories out of which two are interesting for us – appearance and eating habits. When it comes to appearance, large size usually implies increased body weight (e.g. **You mare!** (srb. *Kobilo jedna!*), **You clumsy cow!** (srb. *Kravo smotana!*)) and results in gracelessness or slow movements. As for eating habits, they relate to the manner of feeding characteristic of a certain animal e.g. **You gluttonous pig!** (srb. *Svinjo alava!*). If men and women eat like pigs, they can be called **pig** (srb. *svinja*), but only a woman can be called **sow** (srb. *krmača*). Additionally, **cow** (srb. *krava*) is regularly used to address a fat, clumsy and stupid woman.

Another study inspected zoonymic metaphors [16]. For overweight/obese people the author got the following results: **elephant** (srb. *slon*)/ **she-elephant** (srb. *slonica*), **sow** (srb. *krmača*), **pig** (srb. *svinja*) and **hog** (srb. *krmak*); for clumsiness: **horse** (srb. *konj*), **mare** (srb. *kobila*), **bear** (srb. *medved*), **she-bear** (srb. *medvedica*) and **elephant** (srb. *slon*).

Body image can be defined as one's opinion of their own physical looks or, in other words, as a mental image one has of the dimensions, contours and shape of their body and the feelings they have for those characteristics [17]. So, body image is a multidimensional concept and it involves not only self-perception, but also attitudes that include opinions, beliefs, feelings and behaviour [18]. It is made of two components – (1) perception and (2) evaluation and attitudes to one's own body [19]. This mental image of our physical looks can be in accordance with our actual appearance or completely unrealistic [20]. It is important to know that body image may change in accordance with our mood, experiences and environment [20], it is a mental presentation of what we feel for our own body and it is highly subjective [21]. Other people's reactions also have an impact on the formation of one's body image [22] and these are usually girls that are more sensitive to their body image [21]. Generally speaking, the period of adolescence is the most vulnerable to body image, as numerous physical changes affect it and

bring about contradictory feelings in relation with our physical looks [23]. A positive body image means a person accepts and respects their body and is satisfied with it, whereas a negative body image shows the person is dissatisfied with their own body and has unpleasant thoughts and feelings for it [20]. It is believed that the factors that affect body image in females are Western beauty standards, religious beliefs, nationality and gender [6].

It has been proven that body image is in connection with EDs, low self-esteem, depression and anxiety [24]. Other people's evaluation of one's physical appearance may be a key variable in the development of EDs [25]. Favouring thinness as something beautiful, desirable and expected in the fashion industry has a great impact on the development of certain psychopathological disorders, especially anorexia nervosa [26].

Anorexia nervosa is described as a disorder in which a person refuses to maintain their body weight at the minimal level for their age and height or slightly above it, feels fear of gaining weight, experiences their shape and weight in a distorted way and even suffers from amenorrhea [27]. It is extremely difficult to treat this disorder and it is the mental disorder with the highest death rate [28]. This disorder also has the highest growth rate [29] and it is especially frequent in the age group 15 to 24-year-olds [30]. It is believed that it is one of the biggest problems for adolescent girls in Serbia [31].

Bulimia nervosa is defined as repeated episodes of overeating when compensatory behaviour is used to prevent weight gain [27]. The cause of bulimia is unknown, but the answer might lie in the genes, in achievement pressure, pressure from parents, etc. [32]. Both anorexic and bulimic individuals have a fear of gaining weight and a desire to have a thin body [33].

Another frequent ED is binge eating. It is characterized by negative feelings in connection with one's physical appearance or food and it more often appears in individuals who have gained weight abruptly or have participated in a program for body weight reduction; it is also more frequent in females [30].

A cross-sectional study was conducted with 220 participants who were 16 to 25 years old, with the aim of inspecting behaviours and attitudes about body image and eating disorders [5]. Results showed that children of divorced parents and children who were not satisfied with their socioeconomic status were more prone to EDs. Also, girls from urban areas wished to have the lowest possible weight and were thus much more likely to develop an ED than girls from rural areas [5]. More than half of the participants wished to lose weight although none of them was overweight.

Finally, a study with 40 girls (15 to 25 years old) with the diagnosis of anorexia and a control group that consisted of 78 healthy participants (16 to 18 years old) was conducted. They were supposed to perceive three body types (pyknic, asthenic and athletic). Both groups described pyknic individuals as large, slow, generous, sensitive, uncertain, relaxed, humble. However, anorexic girls considered such individuals as self-confident. Asthenic women were described by the anorexic group as beautiful, reliable and nervous and by the control group as graceful, self-confident, athletic, and relaxed. An athlete was described as large, responsible, self-confident, and relaxed. The asthenic type was preferred by both groups of participants [34].

6.3 Methodology

Based on previous research, a survey that focuses on linguistic attitudes regarding obesity and EDs was devised. The original scope of the survey covered attitudes and knowledge about obesity and EDs, however, for the purposes of this chapter, we decided to focus on lexical items that are used to describe obese girls and boys, and girls and boys who suffer from anorexia nervosa and bulimia nervosa. Furthermore, we examined the lexical items used to describe obese women and men, and women and men who suffer from anorexia nervosa and bulimia nervosa. The aim of this approach was to compare how young people and adults are described

in relation to obesity, anorexia and bulimia nervosa. The results should illuminate the kind of stigma and negative or positive expectations young people could possibly be faced with in regard to the above-mentioned states/disorders. Additionally, we examined lexical items related to binge eating disorder.

The analysis of the answers to open-ended questions that pertain to four different groups is included in this chapter. Each question relating to obesity, and anorexia nervosa/bulimia nervosa attempted to find out what lexical items are generally used in Serbia to describe girls, boys, women, and men. Obesity was observed separately, whereas anorexia nervosa and bulimia nervosa were grouped together as eating disorders.

These questions were phrased in the following way: What lexical items are generally used in Serbia to describe an obese girl/boy/woman/man? and What lexical items are generally used in Serbia to describe a girl/boy/woman/man who suffers from anorexia/bulimia?

Regarding binge eating disorder, we opted for a more general inquiry as the concept of binge eating is relatively new in Serbia which is evident from the fact that there is no widely used Serbian equivalent to the term binge eating neither in general use nor in scientific discourse. This disorder was separated from anorexia and bulimia for this reason, i.e. novelty of the term or not being entirely familiar with the full scope of this disorder. Therefore, the question for this disorder was phrased in the following way: Are you familiar with any terms/words that are used to describe people who suffer from binge eating disorder?

In all the above-mentioned questions, the participants were additionally prompted by a suggestion of what kind of lexical items could be included in their answer. The prompt was added at the end of the question in parentheses and always included the following: nicknames, slang expressions, politically correct expressions, formal expressions, etc.

The survey was anonymous and included 70 participants (49 (70%) females and 21 (30%) males). The participants belonged to the following age groups: 18-25 (38 participants or 54,28%); 26-35 (15 participants or 21.43%); 36-45 (12 participants or 17.14%); and 46+ (5 participants or 7.14%). The survey was disseminated on personal social media of the researchers and to medical students from the University of Belgrade.

The lexical items acquired in this survey were grouped in eight categories: weight, size, other physical characteristics (OPC), social characteristics, intellectual/mental characteristics (IMC), diet-related terms (DRT), zoonyms, and comparison. Each category was further divided into three subcategories: neutral terms (N), euphemisms/terms of affection (E/A), and invectives (I). Neutral terms tend to be descriptive, factual, defining, but also politically correct. In the subcategory E/A, both terms are used for softening and attenuating social/personal criticism. Euphemisms in this subcategory have this function, whereas some other euphemistic terms in the other two subcategories either just provide (politically correct) description or are used offensively. On the other hand, affectionate terms tend to be in the form of diminutives and “baby talk”. The subcategory of invectives is slightly more difficult to define as it can contain negative, derogatory and abusive terms. Additionally, some translations into English do not entirely cover the connotation the invective terms have in Serbian, and some are not typically used to describe humans and their negative connotation is usually actualized in context.

Quantitative analysis, i.e. the frequency of the terms and phrases was compared across the groups (girls (G), boys (B), women (W), and men (M)), categories, and subcategories in order to gain insight into the linguistic attitudes toward these groups in relation to obesity and EDs. Qualitative analysis of the eight categories and four subcategories was performed in order to elucidate how attitudes towards obese individuals and those who suffer from EDs are linguistically expressed.

6.4 Results

Frequency of terms used for obesity, EDs, binge eating

The quantitative analysis revealed that the frequency of terms used is highest for obese individuals (639), followed by those used for individuals suffering from EDs (436). The lowest number of terms used is for individuals suffering from binge eating (84). This distribution of results is not surprising, as EDs, especially bulimia and binge eating, are not as easily recognised based on physical appearance alone. The total frequency of the terms used for obese individuals is the highest in the category of weight (392) followed by zoonyms (122), size (59), comparison (27), OPC (25), social characteristics (7), whereas DRT (3) and IMC (2) are rare. Interestingly, the category of IMC is not present in males and DRT is not present in B. In groups W, B and M only four participants provided no answer, whereas in group G only two participants provided no answer. These numbers show us that there is an abundance of terms that apply to obese individuals. The total frequency of the terms used for individuals suffering from EDs is the highest in the category of weight (196) followed by comparison (116), IMC (39), OPC (28), DRT (19), zoonyms (17), size (11) and social characteristics (10). Interestingly, the category of social characteristics is not present in G whereas IMC terms are used twice as much for females (G: 13, W: 13) compared to males (B: 7, M: 6). In groups W: 15, B: 14, and G: 11, around 20% of participants provided no answer. In group M: 22, around 30% of participants provided no answer. This shows us that terms that apply to individuals who suffer from EDs are not as readily available/used compared to the ones applied to obese individuals, especially when talking about men. Most terms were used for girls, which reveals that these types of EDs (anorexia and bulimia nervosa) are most commonly associated with young females. The total frequency of the terms used for individuals suffering from binge eating is the highest in the category of DRT (19), followed by zoonyms (11), whereas IMC (5), comparison (4) and weight terms (4) are rare. Around 58% of participants (41) provided no answer, i.e. do not know or use any terms that apply to individuals that suffer from binge eating. This shows us that binge eating has not been recognised to the extent obesity and even EDs have been recognised. This is seen in a couple of descriptive answers where participants equate binge eating with obesity or see it as a result of recurrent overeating. However, terms referring to binge eating reveal that our participants understand this condition through the way someone eats or their relationship with food. Additionally, we can see that diet-related terms are more commonly used for EDs than for obesity, which leads us to the same conclusion made for binge eating. The terms from the category of weight are the most numerous in describing both obesity and EDs. This shows us that the participants understand these conditions mostly through weight, but also physical appearance (as these two often go hand in hand). However, an interesting finding is that individuals suffering from these conditions are not described that often by referring to other physical characteristics (including size). OPC and size are not present in terms referring to binge eating, which again shows us that this condition is understood more through activities performed by individuals suffering from it, than through physical characteristics (including weight). Finally, IMC terms, if used, are mostly used to describe females and they are predominantly invectives.

When it comes to the frequency of specific terms used for obese individuals, the most commonly used for all four groups is **fat** (srb. *debeo/la*) – M: 42, G: 41, W: 40, B: 37. The next most common term was **chubby** (srb. *bucko/a*) – G: 20, B: 19. Another two common terms in G were **fatty** (srb. *debeljuca* – 12) and a term that also corresponds to the English **chubby** (srb. *buca* – 11). In W, **well-rounded** (srb. *elegantno/fino popunjena (dama/gospodja)* – 11) was the second most common term (with slight variations in Serbian). Zoonyms also seem to be the preferred way of characterizing obese individuals – **pig** (srb. *svinja*) – B: 12, M: 10; sow (srb. *krmača*) – W: 9, and **cow** (srb. *krava*) – W: 9. The most frequently used term for individuals suffering from EDs was thin (srb. *mršav/a*) – G: 12, W: 12. B: 10, M: 10. In G, **skinny girl** (srb. *mršavica* – 12) was also a common term, whereas a similar term that corresponds to the English **skinny boy** (srb. *mršavko*) was the second most common in B: 9. The third most common in G:

10 and the second most common in W: 10 was the term **anorexic** (srb. *anoreksična*). The highest frequency of several terms in binge eating was 2.

When it comes to the frequency of terms used for obese individuals, it is the highest in the subcategory of invectives (359). Invectives are used slightly more for W: 97 and M: 92 than for G: 86 and B: 84. The subcategory E/A (212) is the next most common subcategory. However, the E/A terms are used twice as much in G: 84 and B: 56 compared to W: 39 and M: 33. These results are to be expected as we are referring to younger individuals, where E/A terms are used to soften expressions that can hurt young people's feelings. Neutral terms (66) are the least frequent and are almost equally represented in three out of four groups (M: 18, G: 17, B: 17, and W: 14). When it comes to the frequency of terms used for individuals suffering from EDs, it is the highest in the subcategory of Invectives (263). Invectives are most often used for females (G: 95 and W: 67), whereas they are less commonly used for males (B: 59 and M: 42). Neutral terms (112) is the next most common subcategory. These terms are almost equally used for females (W: 31 and G: 30) and equally used for males (B: 26 and M: 25). E/A terms (69) are the least represented subcategory. These terms are used almost four times as much in G: 31 in comparison with W: 8, and twice as much in B: 20 compared to M: 10. When it comes to the frequency of terms used for individuals suffering from binge eating, the highest is in the subcategory of invective (35). The other two subcategories are rare with 4 neutral terms and 4 E/A terms. There are no terms in the following categories: size, OPC and social characteristics. They are rare in the category of weight (N: 2, I: 2), IMC (I: 4, E/A: 1) and comparison (I: 4). The majority of terms are found in the category of DRT (I: 14, E/A: 3 and N: 2), and the category of zoonyms (I: 11). Interestingly, when it comes to binge eating, E/A terms are present only in the category of DRT (3) and IMC (1). For both obesity and EDs (including binge eating), invectives are the most common. However, neutral terms are used twice as much for EDs compared to obesity. We interpret this distribution of results as an indefinite attitude, i.e. insufficient understanding/knowledge about EDs, as neutral terms tend to be descriptive or politically correct. On the other hand, E/A terms are used almost three times as much for obesity in comparison with EDs. E/A terms are typically used in order to save the interlocutor's face/not to offend; therefore, as obesity seems to be more obvious, our participants reach more for E/A terms for this condition compared to EDs. Similarly, these terms are used more often for girls and boys, as we typically tend not to hurt children's feelings.

Terms used for obese individuals

Qualitative analysis of terms used for obese individuals yielded the results discussed in this section. In the category of weight, subcategory N, there was one term that was used across all four groups obese (srb. *gojazan/a*), whereas the term **with excess weight** (srb. *sa viškom kilograma*) was found in G, W, and B. Finally, the term **corpulent** (srb. *corpulentna*) was found only in W, whereas **stout** (srb. *dežmekast*) was present only in B. In the subcategory E/A, there were several terms found across all four groups. A variation of the terms that correspond to **chubby/roly-poly/podgy/fatty** (srb. *bucko/a, buca, debeljuca, buckasti/a, bucmast/a, bucika, buckava, debeljko, debeljuškast, deba, debeljan, debelica*) were used affectionately. On the other hand, the following terms were used euphemistically: the term **well-rounded**, in physical sense, that corresponds to the Serbian term (*elegantno/fino*) *popunjen/a* handsomely/elegantly plump); the term **plump** (srb. *punačak/ka, puniji/a*), which in W sometimes preceded the noun **lady** (a **plump lady** *punija dama/gospođa*). In G and B, we found a colloquial phrase **there's a lot of her/him** (srb. *ima ga/je*), whereas a descriptive term **a slightly wider lady** (srb. *malo šira gospođa*) was found only in W. In B and M, we found E/A terms that correspond to the English word **pot-bellied** (srb. *trbušast* and *stomaklija* in M, *trba* and *trboje* in B), which tend to have an affectionate or humorous tone, but reduce obese males to the part of the body typically affected by gaining weight/obesity (**belly**). An important insight refers to the ratio of affectionate and euphemistic terms in the groups – affectionate terms dominate in G and B, whereas euphemistic

terms are more common in W, and both affectionate and euphemistic terms are equally represented in M. It is not surprising that affectionate terms are used more for younger individuals. However, the fact that in M affectionate terms are on par with euphemisms, and in W euphemisms are more common, shows us that the attitude towards men is more generous/familiar, and that women are described more tentatively and more carefully. This reveals the cultural notion of women being more sensitive when it comes to their looks, and more easily offended. In the subcategory of invectives, the following terms were found across all four groups: **fat** (srb. *debeo/la*); **fattened up** (srb. *ugojen/a, podgojen/a*); **bursting at seams** (srb. *puca od sala – bursting from fat* (in B and M, another variation was present: srb. *ovaj će da pukne – he will burst*). In W, the terms **fat-ass** (srb. *debelguza*) and **fat** in front of the noun denoting a shrew woman or “a harpy” (srb. *debela ženturača*) were found, whereas the term specific for G and B was **fatso** (srb. *debeljander/ka*). Finally, the invectives found only in M were the following: **swollen** (srb. *zadrigao*), **(huge) potbelly** (srb. *stomačina*), and a **fat big-headed man** (srb. *debeli glavonja*). These three terms have a significantly more negative connotation in Serbian than in English. We can see that the term **fat** collocates with nouns that have a negative connotation, which reveals a negative attitude towards obese men and women. Additionally, the term **fattened up** takes away the agency of obese individuals, reducing them to animals that are fed in order to be consumed.

In the category of size, subcategory N, we came across two terms in all groups: **large** (srb. *krupan/a*) and **larger** (srb. *krupniji/a*). The term **corpulent** (srb. *mrga*) was found only in B and M, the term **of a larger built** (srb. *krupnije građe*) was present in B, whereas the term **stocky** (srb. *zdepast*) was used in M. The only E/A term that was found in three groups (G, B, and M) was **tiny** (srb. *mrvice*)². The descriptive term **not so tiny** (srb. *nije baš sitna*) was present only in G, whereas no E/A terms were found in W. An invective term present across all four groups was **huge** (srb. *ogroman/a*), whereas the term **a large sized woman** (srb. *gabaritna*) was found only in W. Similarly, **massive** (srb. *masivan*) and **hefty** (srb. *pozamašan*) were found only in M, whereas **jumbo** (srb. *džambo*) was used only in B.

In the category of OPC there were no neutral terms in G and W, whereas there was one neutral term used both for B and M: **thick-set** (srb. *nabijen*). In the subcategory of E/A the term **robust/strong** (srb. *jak/a*) was used across all four groups. Apart from this, the term **round** (srb. *okrugla*) was used in G and W, **voluptuous** (srb. *raskošnija luxurious*) was found in W, **muscular** (srb. *sa dosta mišića with a lot of muscles*) was used in M. Affectionate terms were specifically used for young individuals **puffy** (srb. *pufnasta fluffy*) in G, and cute (srb. *sladak*) in B. An invective term used across all four groups is **greasy** (srb. *mastan/masna*). The term **unkempt** (srb. *zapušten/a*) is found in M, G, and W, **flabby** (srb. *rastresita*) is present only in W and the phrase **does she see herself in the mirror** (srb. *vidi li se ona u ogledalu*) is found only in G. When it comes to E/A terms, the focus is on physical appearance in a descriptive manner, e.g. through analogies, whereas, in the subcategory of invectives, the terms also focus on physical appearance, but as a result of not taking proper care of oneself.

In the category of social characteristics, there were no N and E/A terms in the four groups. One invective term was used both in G and W: **spinster** (srb. *usdelica*), whereas two terms were used only in W: **wretched** (srb. *nesrećnica*) and **shrew** (srb. *strina paternal uncle's wife*). In B we found two terms: **lazy-bones** (srb. *mrcina carrion*) and **a crude boy** (srb. *sirovina*). Finally, in M, we found only one term: **lazy-bones** (srb. *strvina carrion*)³. The words used for females are particularly poignant as they show that girls are judged based on their physical appearance from an early age, and that both girls and women are socially stigmatized in that

² The word *mrva/mrvica* normally refers to a **breadcrumb**. However, its meaning has been extended to refer to something really small or tiny. This is the reason why this term has not been included in the category Comparison.

³ The figurative meaning of *mrcina* and *strvina* is that of being inert, lazy and slovenly.

respect. Conversely, we see that obesity in males is typically associated with laziness and lack of manners.

In the category of IMC only two invective terms/phrases were present: **there's something wrong with her** (srb. *nešto joj fali*) in W, and **(mentally) ill** (srb. *bolesna*) in G. The physical appearance of obese females is directly linked to their mental state, which is not the case with males. We shall also see in 4.3 that the majority of terms in the category of IMC is used for females.

In the category of DRT, the only neutral term was found in M **hearty eater** (srb. *ješan*), which we consider to be a politically correct term with almost a positive connotation. The only invective term **overfed** (srb. *prehranjena/prehranjena*) was used in W and G. This term shows us that females are considered to not have agency or control over their impulses.

In the category of zoonyms, no N terms were found across all four groups and no E/A terms in W and M. An E/A term and its variations used in G is **piggy** (srb. *svinjica, prasica, gica (prasica), pigi*). E/A terms found in B are **teddy bear** (srb. *meda, medonja*) and **panda** (srb. *panda*). The terms used for boys are traditionally perceived as cute and cuddly, suggesting an almost toy-like quality, whereas piggy is a direct association to a pig which is considered to have a negative connotation in both English and Serbian. The only invective term used in all four groups is **pig** (srb. *svinja*), whereas the term **hog** (srb. *krmak*) was found in B, M and G. In both W and G, we found the following terms: **sow** (srb. *krmača, prasica*) and **cow** (srb. *krava*). The terms **boar** (srb. *vepar*), **bear** (srb. *medved*) and **bull** (srb. *bik*) were found in both B and M, whereas the term **cattle** (srb. *stoka*) was present in B, M and W. In G, B and M we found the term that connotatively corresponds to the word **pig**, however in Serbian the literal translation of the word would be **piglet** (srb. *prase*). In B, this term is additionally emphasized by the adjective **fat** (srb. *debelo*). The following terms were found only in W: **fat cow** (srb. *debela krava*), **huge cow** (srb. *kravetina*) and **mare** (srb. *bedevija*). The following terms were found only in M: **fat pig** (srb. *debela svinja*), **elephant** (srb. *slon*), and **fat horse** (srb. *konj debeli*). The terms **ox** (srb. *vo*) and **drone** (srb. *trut*) were used only in B, whereas the term **walrus** (srb. *morž*) was used both in B and G. The term **reptile** (srb. *gmaz*), that in Serbian also has the figurative meaning of a fat, slow, inert person, was used in G and M. Finally, the phrase **fat like a pig** (srb. *debeo kao svinja*) was present in B and M. In Serbian, some of the zoonyms also have additional meanings apart from weight, i.e. the transfer of some animal characteristics onto human beings such as size (e.g. **elephant, walrus, cow** and **mare**), strength (e.g. **boar, bear, bull** and **ox**), laziness (e.g. **walrus** and **drone**) and, according to previous research of zoonyms [15], [16], clumsiness, gracelessness and slow movements (e.g. **cow, bear** and **elephant**). The noun **cattle** is a collective noun which in Serbian can have the figurative meaning of a dishonest person or a person whose physical looks and eating habits resemble those of cows, pigs, oxen, etc.

In the category of comparison, there were no N terms and only three E/A terms were found: **dumpling** (srb. *krofica* little doughnut) in G, **a stubby woman** (srb. *bombica* a little bomb) in W, and **Laurel** (srb. *Stanlio*) in B⁴. In the subcategory of invectives, the term and its variations found across all four groups is **(large) wardrobe** (srb. *ormar, šifonjer* chiffonier, trokrilni ormar triple wardrobe). The term found in both G and W is **sumo-wrestler** (srb. *sumo rvač*), whereas the term **barrel** (srb. *bure*) was used in B, M, and G. The term **tank** (srb. *tenk*) was found in B and W, whereas the term **heavy artillery** (srb. *teška artiljerija*) was present in B and G. The terms **Big Bertha** (srb. *Debela Berta* a type of cannon) and **dairy farm** (srb. *mlekara*)⁵ were used only in G. The participant used the term **dairy farm** specifically for older teenage girls and we suppose it refers to breasts, which reveals the sexualisation and stigmatization of teenage obese girls in a purely corporal way. Finally, the term **the Terminator** (srb. *Terminator*) was

⁴ This term refers to Laurel and Hardy, where Laurel is a thin person, so we believe that the participant either mixed the characters up or that they purposefully used sarcasm. Later, the same participant used Hardy for EDs.

⁵ The participant used this term specifically for older teenage girls and we suppose it refers to breasts.

present only in B. Some of these terms also have the meaning of size (e.g. **wardrobe**), and the terms referring to some kind of weapon (e.g. **tank**, **Big Bertha**) or “warrior” (e.g. **the Terminator**, **sumo-wrestler**) additionally have the meaning of strength or power.

Terms used for individuals suffering from EDs

Qualitative analysis of terms used for individuals suffering from EDs yielded the results discussed in this section. In the category of weight, subcategory N, the following terms occurred across all four groups: **thin** (srb. *mršav/a*), **anorexic** (srb. *anoreksičan/a*), and **bulimic** (srb. *bulimičan/a*). The term **slim** (srb. *tanak*) was found in B and M, the term **slender** (srb. *vitka*) occurred in W, and the phrase **a very thin person** (srb. *veoma mršava osoba*) was used in B. In the subcategory of E/A there were no terms to describe W. The term **skinny girl/boy/man** and its variations (srb. *mršavac*, *mršavko*, *mršavica*, *mrša*, *premršavica* too skinny) were found in G, B, and M. These terms are considered affectionate because of their diminutive form. The phrase **she doesn't cast a shadow** (srb. *ne vidim joj senku*) was used in G. Even though this euphemistic/figurative phrase sounds offensive we consider it more descriptive compared to those classified in invectives. The term **chubby** (srb. *bucko*) was found in M.⁶ In the subcategory of invectives, the following terms were found in all four groups: **anorexic girl/boy/woman/man** (srb. *anoreksičar/ka*), **bulimic girl/boy/woman/man** (srb. *bulimičar/ka*)⁷, **overly/excessively skinny** and its variations (srb. *premršav/a*, *preterano mršav/a*, *užasno mršava*), **scrawny** and its variations (srb. *žgoljav/a*, and especially *žgoljkava* in G, and *žgoljavko* in B), **gaunt** (srb. *osušen/a*, and especially *suva*, *sasušena*, *kako se osušila* in W, and *suvonjav* in B)⁸ and **skin and bones** (srb. *kost i koža*). The phrase **he/she needs some meat on his/her bones** (srb. *nema pas za šta da ga/je ujede*)⁹ was used in G, W, and M. The phrase **she weighs 20 kg with her bed** (srb. *20 kila s krevetom*), and the term **fat** (srb. *debela*)¹⁰ were used in G, whereas **the skinny boy** (srb. *onaj mali mršavi*) was found in B. The neutral terms **anorexic** and **bulimic** just state or notice the condition of the sufferer, whereas the invective variations of these terms have underlying intention of hurting or offending the sufferer. As we have previously seen, females, especially women, are treated most severely there are no E/A terms/phrases used for women, whereas they are present in all other groups. This presents a model for girls of what to expect when it comes to language, i.e. stigmatization and social attitude towards their physical and mental states.

In the category of size, the neutral term found in all four groups was **tiny** (srb. *sitan/a*, and especially *sićušna* in G), whereas the term **small** (srb. *mali*) was present in B and M. There were no E/A in groups B, W and M, and there were no invectives in any of the four groups. The only E/A term was used in G and it corresponds to the word **tiny** (srb. *mrvica – breadcrumb*)¹¹.

In the category of OPC, there were no N terms and the only E/A term that was found in all four groups was **weak** (srb. *slab/a*). This term was classified in E/A as it refers more to physical constitution, i.e. thinness and not strength per se in Serbian if someone has lost weight the term *oslabiti* (eng. *to weaken*) is used. Additionally, in G and W, the following E/A terms were found: **pretty** (srb. *lepa*) and **good looking** (srb. *zgodna*). However, the term **fit** (srb. *u*

⁶ This term can be explained in two ways, either the participant used this term to describe a man who is bulimic (and forgot to emphasize its use) or the participant used this term sarcastically/ironically, i.e. in a way that makes fun of the person it describes.

⁷ The Serbian terms *anoreksičar/ka* and *bulimičar/ka* have a negative, almost abusive connotation - name calling.

⁸ All of these terms have the literal meaning of drying up or becoming dry.

⁹ This phrase has the figurative meaning of **to be out at the elbows** (poor), and literally it means s/he does not have enough meat on her/himself for a dog to bit her/him. We believe this term was used in a literal way, rather than figurative.

¹⁰ See footnote 5.

¹¹ This term has not been classified in the group of comparison as it is normally used to denote something really small.

formi) was used in M. There were several invective terms/phrases: **softy** (srb. *kilav*) in B and M, **plain** (srb. *nikakav/nikakva*)¹² in B, M, and W, **decrepit** (srb. *propao/la*) in M and W, **bony** (srb. *koščat/a*) in B and G, **weakling** (srb. *slabić*) in B and M, **feeble** (srb. *metiljav*) in B, **ashen** (srb. *bleda*), **no meat on her** (srb. *nema dupeta assless*) in G, and **no tits and ass** (srb. *nema dupeta i sisa*) in W. We can see that thinness in females is looked at from the prism of beauty or presence of certain physical attributes, whereas in men it is perceived as physical fitness or, on the other hand, lack of strength. In previous research [2] girls were reported to want to be thin, and boys preferred being more corpulent/physically strong. Thus, it is not surprising to find terms such as **pretty** and **good looking**, and later **model** (in the category of comparison) to describe thin females. However, terms such as **ashen**, **no meat on her**, **no tits and ass** still indicate that there is a negative attitude towards thinness in females.

In the category of social characteristics, there are no terms used for G, no neutral terms across all four groups, and no E/A terms in G and W. The only E/A term used for B and M was **poor thing** and its variation (srb. *mukica, jadničak*), which belongs to affectionate, almost compassionate, terms. The following invectives were found in W: **wretched** (srb. *nesrećnica*), **servile** (srb. *servilna*) and **suitable/eligible** (srb. *podobna*). The terms **effeminate** (srb. *ženstven*) and **weird** (srb. *čudan*) were present in B, and the phrase **not a man** (srb. *nije muško*) was used in M. These invectives show us that thinness in women is seen as either a sign of being socially meak and pliable, or unfortunate and unwanted. When it comes to males, thinness is perceived as lack of masculine characteristics stereotypically associated with gay men.

In the category of IMC, there were two neutral (politically correct) phrases used in all four groups: **a girl/woman/boy/man who suffers from anorexia** (srb. *devojčica/žena/dečak/muškarac koja/i boluje od anoreksije*) and **a girl/woman/boy/man who suffers from bulimia** (srb. *devojčica/žena/dečak/muškarac koja/i boluje od bulimije*). There were no E/A terms in any group. Two invectives were found in all four groups: **(mentally) ill** (srb. *bolestan/a*) and **disturbed** (srb. *poremećen/a*). The term **crazy** (srb. *nenormalan/a*) was used in M, B and G, whereas the terms **nut/nutcase** (srb. *luda, ludača*), **psychosis** (srb. *psihoza*), and **a fool/idiot** (srb. *budala*) were used in G and W. The phrase **a mentally ill person** (srb. *psihički bolesna osoba*), and the term **ill/patient** (srb. *bolesnica*) were found in G, whereas the phrases **she must be (mentally) ill** (srb. *mora da je bolesna*) and **why does she do that to herself?** (srb. *šta joj to treba*) were listed in W. Through these terms we can see that EDs (anorexia and bulimia nervosa) are associated with mental illness. However, the invective terms show us a negative attitude towards mental illness in general, and especially mentally ill females, which reveals a higher level of stigmatization and more judgment applied to females in comparison to men.

In the category of DRT, there were no N or E/A terms in any group. The invective term **undernourished** (srb. *neuhranjen/a*) was found in all four groups, whereas the term **underfed** (srb. *pothranjen/a*) was used in B and G. Similarly to the term **overfed** used for obese females, these terms also show us that females lack agency. Specifically for individuals who suffer from bulimia, the phrase **the one who pushes her fingers down her throat** (srb. *ona što gura prste u usta*) was found in G and W, whereas the phrases **she keeps eating** (srb. *samo jede*), **the one who barfs** (srb. *ona što baca pegle*), and **the one who gorges herself** (srb. *ona što se prežderava*) were used only in G. Bulimic females seem to be described through the activity most commonly associated with bulimia nervosa or through their inability to control their impulses, i.e. compulsive eating.

In the category of zoonyms, there were no neutral terms in the four groups. The E/A term **goldfinch** (srb. *štiglič*)¹³ was used in B, M, and G. The following invectives were found: **bleak** (srb. *saraga* in the meaning of **thin as a rake**) in B, G, and W, **(earth)worm** (srb. *glista*) in

¹² In Serbian has a more negative connotation - people who are unattractive.

¹³ This term is figuratively in the meaning of **tiny**, but as it denotes a songbird that is fragile and pretty it belongs to the subcategory of E/A.

B, M, and G, and **giraffe** (srb. *žirafa*) in G. All these terms have the additional meaning of being tall and elongated. Additionally, the phrase **as thin as a worm** (srb. *mršava kao glista*) was found in G and W, whereas the phrases **looks like a bleak** (srb. *izgleda kao saraga*) and **as fat as a bear** (srb. *ugojila se kao medved*) were present in G.

In the category of comparison, there were no neutral terms in B and M, whereas the term **model** and its variation (srb. *manekenka, model*) were found in G and W. There were no E/A terms in M, whereas the term **(little) stick** (srp. *štap*) was used in G, W, and B. The term **Hardy** (srb. *Olio*)¹⁴ was used in B, whereas the terms **twig** (srb. *grančica*), **Thumbellina** (srb. *Palčica*), and **Olive Oyl** (srb. *Oliva*) were found in G. The following invectives were found in all four groups: **IV stand** (srb. *stalak za infuziju*), **branch** (srb. *grana*), **pole** (srb. *pritka*), and **toothpick** (srb. *čačkalica*). The terms that correspond to the English phrase **skin and bones** (srb. *kostur* and *skelet* skeleton; and *mršav kao kostur* as thin as a skeleton) and **beanpole/stick up one's ass** (srb. *proguta motku* swallowed a pole) were found in B and M. In G and W, the terms **broomstick** (srb. *metla*) and **plank** (srb. *daska*) were present, whereas the term **pole** (in the meaning of srb. *motka*) was found in B, G, and W. The Serbian term *prangija*, which denotes a type of a small cannon, was used in B, M, and G we believe the use was erroneous as its figurative meaning refers to a stubborn person. The term **coathanger** (srb. *vešalica*) was found in G, **stick** (srb. *štap*), **dry twig** (srb. *suvarak*), and the phrase **as thin as a rail** (srb. *tanak kao prut*) were used in B, whereas the terms **needle** (srb. *igla*), **cigarette butt** (srb. *pikavac*), and the phrase **as dry as a bone** (srb. *suv kao grana* as dry as a branch) were present in M. Most of these terms that refer to some kind of elongated object have the additional meaning of being tall and flat. However, some of the terms such as **(little) stick**, **twig**, **toothpick**, etc. also have the meaning of being small. The Serbian terms *kostur* and *skelet* (eng. skeleton), *mršav kao kostur* (eng. as thin as a skeleton), and *stalak za infuziju* (eng. IV stand) are all associated with illness and death, but they also reveal a disregard for the potential consequences of EDs and are extremely insensitive.

Additionally, there were six descriptive answers regarding boys and three regarding men who suffer from EDs. These answers mostly state that when it comes to males, talking about EDs is still considered to be taboo, i.e. it is not talked about/males are not seen as possible sufferers of EDs. One participant emphasized the connection of EDs in boys with the societal perception of these individuals as homosexual or eccentric. Both boys and men are considered soft and overly skinny if suffering from EDs. Furthermore, one participant believes that boys (between the age of 14 and 18) overexercise which could contribute to them looking sickly or weird.

Terms used for individuals suffering from binge eating

Qualitative analysis of terms used for individuals suffering from binge eating yielded the results discussed in this section. In the category of weight, the only neutral term was **obese** (srb. *gojazan/a*), whereas the only invective term was **fat** (srb. *debeo/la*).

In the category of IMC, an E/A phrase **drowns one's sorrow in chocolate** (srb. *utapa tugu u čokoladi*) was found. Additionally, there were several invective terms/phrases: **uncontrolled** (srb. *nekontrolisan*), **immoderate** (srb. *neumeren*), **doesn't know when to stop** (srb. *ne zna šta je dosta* - refers to being gluttonous), and **nervous/anxious** (srb. *živčan* – eating uncontrollably because of being nervous).

In the category of DTR, there were two neutral terms/phrases: **a hearty eater** (srb. *ješan*), and **a person who enjoys food/eating** (srb. *osoba koja uživa u hrani*). In E/A terms there were two variations of the same term **glutton** (srb. *ždera, žderonja*). In Serbian these terms have affectionate meanings unlike the similar ones found in the subcategory of invectives. There were numerous invective terms/phrases and their variations: **glutton/gluttonous** (srb. *proždrljivac, žderač, prežderivač, prejedalica*), **voracious** (srb. *halapljiv*), **devouring** (srb. *ždranje, alavost*),

¹⁴ See footnote 3.

pigging-out (srb. *krmljanje*), **insatiable** (srb. *nezasit*), **she's fattening herself up** (srb. *ona se tovi*), **a full stomach is the only important thing for her** (srb. *samo joj je važno da napuni želudac*), and **her/his eyes are bigger than her/his belly/stomach** (srb. *jede očima/gladne mu oči eats with one's eyes*).

In the category of zoonyms, only invectives were present: **fat cow** (srb. *debela krava* for females), **pig/piglet** (srb. *svinja, prase*), **hog** (srb. *krme, krmak*), **sow** (srb. *krmača* – for females), **cattle** (srb. *stoka*), and **locust** (srb. *skakavac* they devour everything in their path). The use of these terms for binge eaters relies on the transfer of animal characteristics, specifically, the way these animals eat.

In the category of comparison, several invectives were used: **refugee** (srb. *izbeglica* – a culturally specific term used for a very poor and hungry person (inf.)), **blizzard/storm** (srb. *mećava*), **Hoover** (srb. *usisivač*), and **pill-popper** (srb. *tabletoman*).¹⁵

No terms were found in the category of size, OPC, and social characteristics.

We can see that most of the terms referring to binge eaters emphasize the manner in which one eats, i.e. compulsive eating and eating large amounts of food. However, two terms reveal that some participants understand that there are different causes of this type of ED, i.e. anxiety (**nervous/anxious**) and sadness/depression (e.g. **drowns one's sorrow in chocolate**).

6.5 Conclusion

This chapter attempted to add a humanistic/linguistic perspective to previous research on obesity, EDs, and binge eating. In Serbia, there have been only a few studies addressing these issues, and they mainly focused on eating habits, psychological and social aspects of the conditions (e.g. stigmatization and marginalization), socio-economic impact on body image and the psychological state of adolescents. The results of our survey added a piece to the very complex mosaic of the situation and environment that influences young people who deal with eating disorders and obesity. The aspect that we illuminated is focused on the linguistic attitudes that both Serbian children/teenagers and adults of both sexes have to deal with during their plight with obesity/EDs/binge eating.

The quantitative analysis revealed that the terms used for obesity and EDs most commonly describe/refer to weight, unlike some other characteristics (e.g. social, intellectual and mental). This is confirmed by the most frequent terms **fat, chubby** (for obesity) and **thin, skinny** (for EDs). On the other hand, the most common terms referring to binge eating describe the manner in which one eats, i.e. compulsive and psychologically-motivated eating behaviour. The majority of terms referring to obese individuals and those suffering from EDs (including binge eating) are either negative, or offensive, even abusive. Neutral terms are used twice as much for EDs compared to obesity, whereas E/A terms are used almost three times as much for obesity in comparison with EDs. EDs seem to be less recognized and less talked about in Serbian society, which is reflected in the language through neutral/descriptive/politically correct terms. Conversely, obesity is more easily perceived, and has been in the focus of the public's eye longer, thus the linguistic attitude has evolved alongside society's views, generating a myriad of terms, but especially those that attenuate the negative position towards obese individuals, i.e. through the use of euphemisms and affectionate terms. We can also conclude that binge eating is still not recognised enough in Serbia, as more than half of the participants provided no answer/term for individuals who suffer from it.

The qualitative analysis corroborated the findings of the quantitative analysis, but also showed that there is a huge array of terms that the Serbian language gave rise to in connection to obesity and EDs. The terms that describe these individuals through their physical appearance

¹⁵ We are not sure why this term was used in this context, but a possible explanation is that such a person eats as compulsively as a pill-popper would take pills.

(weight and size) were not as surprising as those relating to social and intellectual/mental characteristics, which revealed a misogynistic and homophobic attitude. Additionally, terms referring to other physical characteristics reveal that obese individuals are perceived as neglectful of their appearance to the extent of being considered slobs, whereas those suffering from EDs are perceived as unattractive and physically weak. On the other hand, zoonyms and comparisons tend to transfer characteristics from either animals, objects, or fictional characters, which typically refer to physical characteristics. However, some other transferable characteristics can also shed light on the cultural attitude towards obesity or EDs, and they often coincide with those reflected in terms that describe one's eating habits. Consequently, obesity, EDs, and binge eating are considered as illness, i.e. compulsion or lack of control.

Lundgren et al. argue that the perception and evaluation of one's environment can add to the progression of EDs [25]. We believe that both obese individuals and those suffering from EDs are affected and influenced by their peers in a way that can exacerbate their condition and push them even further into precarious mental states. This is especially true for adolescents and young adults. The language used for adults serves as a model of what they can expect in their future if their condition does not improve, but it also serves as an indicator of how attitudes change towards these individuals as they age. Additionally, the labels actualized through language in childhood and adolescence further the marginalization and stigmatization which can be extremely burdening for young people and deepen their already fragile image of self, influence their body image, and aggravate and cause the development of additional issues such as obsessive compulsive and anxiety disorders, depression, or even lead to self-harming and eventually suicide.

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7. Cultural and linguistic vignettes on body image, obesity, and eating disorders from six European countries – Transnational C4H report

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Abstract. *This paper summarizes local perspectives on obesity and eating disorders as a result of a humanities-based analysis in countries participating to the Erasmus+ project Connected4Health, A Medical and Humanities-based Approach for Navigating Obesity and Eating Disorders in Young People (C4H), project no. 2021-1-RO01-KA220-HED-000032108.*

In order to widen and enrich the scope of understanding obesity and eating disorders (EDs) from a humanistic perspective, but also to better understand, treat and communicate with young patients suffering from these conditions, specialists in linguistics, literature, communication, humanistic therapies, and sociology from the C4H partner countries (Romania, Serbia, Lithuania, Portugal, Spain, and Czech Republic) have explored local cultural and societal attitudes, perspectives, beliefs, expectations, challenges, and habits but also bias and stigmatization related to fatness, ideal(ized) body image as these are reflected in the respective countries.

Partners from the Faculty of Medicine, University of Belgrade, **Serbia**, proposed a genuine linguistic analysis of the terms employed to describe young people versus adults suffering from obesity and most common eating disorders. In order to highlight the type of stigma and positive or negative expectations, the authors conducted a survey on linguistic items used to describe girls/boys versus women/men suffering from obesity and those suffering from eating disorders. Using an open-ended questionnaire distributed through social media and onsite to medical students from Belgrade, researchers performed a quantitative (frequency) and qualitative (attitude) analysis of several categories of terms employed to refer to people with obesity and EDs pertaining to: weight, size, other physical characteristics, social characteristics, intellectual/mental characteristics, diet-related terms, zoonyms, etc. The study highlights how attitudes towards people with obesity and eating disorders are linguistically expressed, distinguishing among neutral terms, euphemisms/terms of affection, or invectives. This linguistic analysis points out that a negative bias exists in Serbia and such complex conditions as obesity and eating disorders are obtusely reduced to weight and appearance, especially people suffering from obesity being perceived as “neglectful of their appearance to the extent of being considered slobs, whereas those suffering from EDs are perceived as unattractive and physically weak”. Standing out as clearly misogynistic and homophobic, as the authors of the report underline, are particularly the terms that describe such individuals’ mental and intellectual characteristics.

The chapter entitled *Body Image and Shame in Romania* examines the perceptions of fatness and slenderness and focuses on shame and self-image, underlining specific features encountered in Romania, even though, due to the widespread use of social media and its inherent possibility of (self-) objectification, “shame has lost, to a considerable extent, its regional or national specificities”. The possibility of (self-) objectification set against the backdrop of highly idealized images of the human body that infuse social media, which, as the author contends, have reached unprecedented levels, facilitates a continuous discourse of self-

criticism, dissatisfaction, body shaming, social and appearance anxiety, as well as other negative emotions. Shame becomes a lever of control by society who intends to transform bodies according to standards and at the same time by the individual whose goal is to control what is seen by others (*impression management*). The plethora of recommendations on diet by weight management professionals, the cornucopia of diets which prioritize the body form over health issues, but also the sense of failure to comply with the ideal are responsible for the “perception of body as a burden” and hence the sense of failure, rejection, and shame, even guilt and self-blame in ED patients.

If in the past, the author further mentioned, fatness was often associated worldwide with a sense of prosperity, this conviction continued in Romania until the late 1980s and the end of communism. The traditional Romanian diet which relies heavily on carbohydrates and meals, consumed mainly at major religious holidays, together with the more aggressive proliferation of fast food chains and advertising of junk food, have made weight loss a current continuous preoccupation for Romanians, albeit much later than in other countries. From a religious perspective fatness is associated with gluttony and materialistic tendencies and this makes fasting a common practice for many Romanians, especially at major religious holidays, but it can also be included in dieting regimes for weight loss. There is a scarcity of Romanian studies on body image and an almost total absence of fat characters in the Romanian fiction. Weight bias is also common among teenagers, overweight Romanian children and adolescents facing the alarmingly rapid proliferation of bullying.

In terms of slenderness, the author analyzed the toy and fashion industry in order to prove how consumer society influences and contributes to the formation of the ideal body shape. The survey further detailed on the role that different human body shapes, from graceful ballerinas to sumo wrestlers and weightlifters, play in sports. A cross cultural study points out that “*thin Romanian young women appear as the norm versus normal-weighted ones*”. More and more blogs by Romanian anorexic young women begin to voice in the public space the ordeals they faced and their long-term traumatic consequences. A case study of famous Romanian gymnasts who made an international career in sports during the communist regime displays the imposed fasting, even starvation and excruciating training sessions meant to keep them within the slenderness standards. Regarding the printed media, Romanian tabloids exploit ideal body images to sell slimming products and dietary supplements as well as exotic holidays and insurance coverage. Cases of weight loss, slimming cures, and bariatric or cosmetic surgery of Romanian TV presenters complete the local picture as quick shortcuts to an ideal body instead of long term lifestyle changes towards a healthy one.

Authors of the report from **Portugal** underline that body image perception in teenagers is subjective and marked by disruptive and extreme behaviours and discontent. This perception is influenced by several factors including the coexistence of traditional versus post-modern convictions (pro-anorexia movement), exacerbated fixation on body image, countless dietary patterns, unhealthy advertising, the models’ messages, and social media pressure. Weight bias and discrimination as well as body objectification and bullying also exist and are more frequent in females. In order to understand how body image is currently portrayed in Portugal, the report authors performed a quantitative and qualitative analysis of discourses in local printed magazine covers in the women’s/fashion segment. Of the total 159 surveyed issues, 29% included messages related to beauty culture and body shape, while about 9.4% assisted the slenderness culture; some of the messages stressed body shaming, implying the need for change and weight loss in order to attain the ideal body. Also, 13.8% had positive messages of healthy eating, whereas others included body positivity messages and real-women advertising. These increasingly have a role in raising the general Portuguese public’s awareness about the stigma that surrounds obesity and eating disorders and create venues of social acceptance, intervention, and change in the public discourse.

The chapter *Tendencies and perspectives on body image in Lithuania* demonstrates that while certain body appearance standards prevail, failure to comply with them is likely to trigger a negative impact on a person's physical and mental health and their social life. We are offered a historical perspective on body image in Lithuania that dates back to the 1920s and the beginning of the beauty discourse, proclaiming conformation of appearance to certain modern standards or models of foreign origin (France, the USA). This period was rightly termed the “renaissance of physicality” as the body became an object of admiration and construction. The authors stress that while objectified body consciousness is common in modern Latvian society, it is the media that creates the conditions and disseminates societal pressures to conform to standards and expectations.

Likewise, the survey of Lithuanian humanistic studies underlines that the media, family, and peer pressure and bullying are responsible for body dissatisfaction in young people with eating disorders. Despite lockdown and restricted physical movement, and consequently increased conditions for overweight, people rarely presented to the doctor's for obesity, as it was not considered a relevant issue, let alone a condition. Sadly, as a gymnasium social experiment demonstrates, obesity is still associated with stigma, overweight girls being evaluated as less attractive than thin ones and thus assigned lowest scores. At linguistic level, stigma is translated and perpetuated through the difference between *I am obese* (and therefore responsible for it) and *I suffer from obesity*, i.e. this can be controlled. While mass media proliferation of images of people with obesity, decapitated or reduced to the belly is dehumanizing and distasteful, equally distorted seems to be the case study of famous Lithuanian influencers who promote sports and a healthy life style through weight loss. In order to create a less body-shameful and more health-oriented culture, the authors conclude, Lithuania needs to continue to focus its public messages less on weight and more on healthy life style for all ages. A case study of Plus-size Lithuanian girls, where plus size was actually equated with normal size, also pointed out how difficult it is for a young woman to escape the “ideal body image” promoted by the media and how misconceptions about one's own weight persist at a young age. In contrast to this, stand Lithuanian photo projects such as “Beauty Has No Weight” that used plus-size models for fashion shows, demonstrating that global trends according to which the concept of beauty is becoming more flexible and encompassing, slightly penetrate the public Lithuanian discourse, as well.

The report by researchers at Autonomous University of Madrid, **Spain**, looks into the reverse connection between the Mediterranean diet (MD) and eating disorders through the metaphoric lens of the double-faced Janus, a symbol of dualism as well as body and emotional transformation. Starting from the premise that emotions play a key part in EDs and that ED patients find it difficult to differentiate and express them (alexithymia), the authors present different ED cases of distorted body image, but also forms of artistic expression including arts, music, poetry, dance, and movement as specific therapies applied in two Spanish healthcare units. Especially finger painting, music therapy, and dance are seen as possibilities of reconnecting with oneself and the others, exploring and communicating feelings, focusing on actions rather than on the body, and thus creating a feeling of general wellbeing, which is essential in the complicated process of recovery from EDs, as the excerpts from the patients' reflective diaries in the Spanish report demonstrate.

The prevalence of obesity has increased significantly in recent years in **Czech Republic**, being higher in men than in women. If in 2014 Czech Republic was ranked 7th in the hierarchy of European countries in terms of obesity, in 2019 it reached third place with 60% of people over 18 years of age affected by obesity, statistics varying according to their level of physical activity, diet, education (higher obesity in women with only basic education), and socio-economic background. The most alarming increase is noted among children, a trend accelerated by the Covid 19 pandemic and the lack of exercise. Since any attempt to explain these phenomena can

be simplistic, the report questions several stimulating factors such as e.g., economic growth, lifestyle changes, or sedentarism.

Data on eating disorders are more difficult to identify, EDs being coded as diseases, unlike obesity. Especially the number of teenagers and young women affected by EDs has increased significantly, with approx. 15% in 2020 compared to 2010, incriminated for this rise being the social isolation, lack of movement, time spent on social networks, and exposure to idealized models.

The cult of physical beauty present in the Czech Republic as in the other surveyed countries of the current report, especially among young people, is associated with thinness for women and muscular body for men. Deviations from this ideal due to overweight or obesity are stigmatized, physical beauty apparently having primacy over career choices and friendships. Body shape thus becomes synonymous with identity, failure to comply with it often leading to the onset or worsening of EDs.

The survey stresses both positive and negative influences of technology and social media (blogs and online groups) on young people with obesity and EDs in Czech Republic: openness given by anonymity, support and advice in terms of prevention, online therapy, and dissemination of recovery methods, versus the likelihood of spreading disruptive behaviours and unrealistic media images of celebrities, respectively.

Trying to answer the question of what type of media has the largest influence on young people, the survey points out that personal blogs (personal profiles) and motivational groups influence the teenagers' lifestyle, body perception and beauty ideals, regardless of whether users suffer from EDs or not. Young people are aware of these influences, without necessarily being certain whether they are positive (eating healthier) or negative (dissatisfaction, shame with own body, guilt).

Pioneering debates on body-shaming and body-positivity in women through radio podcasts are forward thinking and stand out among the partner countries, their purpose being neither to condone nor promote excessive weight, but to raise awareness that feeling ashamed with it is not the right attitude. An example from recent Czech prose writing captures the complex struggle with anorexia nervosa, the author trying to destroy the simplified myth of weight loss for beauty, rather as a result of struggling with personal problems, family and partner relationships, and traumas.

Equally innovative for the present report, Czech Republic also seems to spearhead debates on the problem of eating disorders in men, addressing publicly the issues of male body image in another series of radio podcasts, although reactions from the public opinion were more subdued in their case. It is assumed that, apparently, the problem of body image and eating disorders remains more frequently associated with women rather than men in mainstream communication, the latter feeling less willing and comfortable to talk about their intimacy. Society is also less ready to accept and debate on such issues.

The conclusion is that body shaming (fat shaming) as a type of bias and discrimination persists in all Czech age groups and in various environments from family and circle of friends, to social networks. With the printed media lacking the insight and not reaching the vulnerable target groups, and tabloids tending to perpetuate the artificial slender-and-beauty culture and as a result body shaming, the digital sphere (Internet discussions, podcasts) may open new routes for communication about EDs, body image, and body shaming.

To conclude, as hypothesized and demonstrated by these humanistic studies, obesity, aggravated by Covid-19 restrictions and perpetuated by ideal(ized) body images in the mass media and social media is stigmatized and associated with negative attributes in all the surveyed European countries. Although less poignantly present in the public discourse, eating disorders, facilitated among others by unrealistic expectations and body (self-) objectification in the social media, are on the rise with adolescents in the partner countries, their management lending itself mainly to a humanistic approach that targets communication and

general wellbeing. As more young people are expected to continue to be suffering from weight problems and eating disorders in the near future, education and awareness campaigns such as the ones advocated by Connected4Health project and the current publication are salutary in order to help dealing with this kind of pandemic.

**Area III – HEALTHY EATING CHAPTER FOR YOUNG PEOPLE WITH
OBESITY AND EATING DISORDERS**

1. Healthy eating for young people with obesity and ED's – Local report Czech Republic

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Abstract: *The article provides information about the prevalence of overweight/obesity among the Czech population, especially children. It surveys the national guidelines and standards for healthy eating and lists some of the most well-known national and local initiatives promoting a healthy diet and weight control and detection. There is an overview of initiatives assisting with the detection of ED's and connecting the clients with professional help.*

1.1 Prevalence of excess weight

Until 2001, the Czech Republic was at the top in the world in regular national reference growth studies - the National Anthropological Research of Children and Youth (CAV), which took place in 1951 in 10-year cycles meeting the conditions of a representative sample. The complexity and methodological continuity of these researches made it possible to evaluate the development trends in the prevalence of obesity in Czech children over a time horizon of 50 years. Unfortunately, the last sixth CAV took place in 2001. The data are outdated to be presented here in their complexity, we can only say that the authors arrived at the conclusion that the situation with numbers of overweight/obese children was not as alarming as in other countries, but the increasing trend was already evident. They also summarized that the threshold for obesity is at the internationally recommended reference level BMI data higher than reference data for the Czech child and adolescent population. Since then, information about overweight and obesity in Czech children and adolescents has been presented by a number of authors.

In the Czech Republic, the charts from the 5th and 6th CAV are now used to assess the physical development of children and adolescents. The reason is the increasing prevalence of overweight in the population of children and adolescents. Updating these graphs would mean shifting the critical values for determining overweight and obesity to higher values, which would not be desirable.

In the Czech classification, BMI percentiles 90-96.9 are considered overweight, and BMI greater than or equal to the 97th percentile is considered obese. However, these boundaries are not fixed and do not apply to every individual. Kunešová and colleagues (2010) consider the BMI range between the 85th and 95th percentile to be worrying for Czech children. [1] For this reason, they recommend that doctors pay attention in terms of starting prevention and early intervention for children with a BMI value of the 85th percentile. They recommend considering a BMI \geq 95th percentile as the limit of childhood obesity. However, this definition is conditioned by the fact that the growth rate of children is not slowed down or disproportionate due to family assumptions, the course of puberty, etc.

Globally recognized criteria for overweight and obesity in children and adolescents do not exist. If we compare, for example, the tables for determining children's BMI values in Great Britain (Cole et al., 2000) and in the Czech Republic, we find that the population of Czech children and adolescents is evaluated more moderately compared to the British one. [2]

The International Obesity Task Force (IOTF) classification is often used for international comparison. According to the IOTF classification, overweight is defined as a BMI percentile in the range of 85 - 94.9, obesity as a BMI percentile equal to or greater than 95. This classification was based on accepted adult BMI cut-offs, and using statistical procedures and percentile plots from six national cross-sectional studies, appropriate values were proposed for each age and sex. The IOTF criteria are not universally accepted, many experts are inclined to the opinion that measurements should be based on national standards (5th and 6th CAV in the case of the Czech Republic).

In international comparisons, we can also use the classification of the World Health Organization (WHO, 2014), the new version of which was created based on the collection of data on the development of children of different ethnic and cultural groups. Overweight is defined by SD BMI +1 and obesity + 2 SD BMI for the respective sex and age, underweight is considered to be SD BMI ≤ - 2, and severely underweight is SD BMI ≤ - 3.

Unfortunately, current studies have not always been based on a representative sample of files, but only on partial studies limited regionally, without taking into account demographic aspects. In addition, with a low number of monitored individuals, etc. Another problem is the inconsistent methodology of anthropometric measurements to determine overweight/ obesity, the use of reference tables: be it either Czech based on the CAV or international WHO (WHO Child Growth Standards) or IOTF (International Obesity Task Force) or just completely self-reported data. Except for self-reported data, most of the above leads to an overestimation of the incidence of overweight and obesity in our child population. The conclusions of various “agency surveys”, unfortunately some financed, for example, by the General Health Insurance Company (surveys by the STEM/MARK agency) are completely out of line with reality, which brings purely disinformation data.

More extensive research with the CAV methodology, at least in some age categories, took place in 2006. [3] The examination was carried out in the age categories of 5, 13 and 18 years in a total of 7427 children (3780 boys and 3647 girls). Data from this study showed a decrease in the prevalence of both overweight and obesity compared to CAV 2001 in both sexes, as can be seen in Table 1.

Table 1: The prevalence of overweight and obesity among Czech children in 2006

Age	Boys			Girls		
	no	overweight (%)	obese (%)	no	overweight (%)	obese (%)
5 years	1112	2.0	3.0	980	1.0	4.3
13 years	1360	2.2	5.4	1351	3.0	5.9
18 years	1308	0.9	3.0	1316	1.2	3.0

Only 7-year-olds were measured in 2009-2010. Here it was observed that among girls, there was a significant decrease in the prevalence of overweight to the values corresponding to 1991, in boys the decrease was less pronounced and statistically insignificant. Specific differences compared to the values from 2001 show a decrease in overweight by 3.3% in boys and 3.4% in girls, in obesity a decrease in girls by 2.1%, in boys by a slight increase of 1.7%. The above-mentioned overestimation can already be seen in Table 2 when using standardized values rather than those purely for the CZ population. [4] Czech girls in general are better off even compared to their peers from European countries and overseas. Available data from 2014 say that there are fewer girls struggling with excess weight in the Czech Republic than in the rest of the world. Boys are above average but do not reach the critical values of boys from Malta, Greece or Canada, where one in three is overweight or obese. Denmark, the Netherlands, and Norway rank among the countries least affected by problems with excess weight.

Table 2: Prevalence of overweight and obesity in Czech children aged 6.5–7.5 years in 2008, assessed on the basis of different reference data (according to Kunešová et al., 2011)

Growth standards	Boys		Girls	
	overweight (%)	obese (%)	overweight (%)	obese (%)
Czech Republic	14.8	7.2	11.1	5.0
IOTF *)	15.8	4.4	14.1	3.3
WHO **)	23.5	10.0	19.5	4.8

*) International Obesity Task Force (Cole et al., 2000)

**) World Health Organization (WHO Child Growth Standards)

As for adults, the data come from the European Health Survey (EHIS) conducted in 2018-2020 which included people over 15 years of age. 18.5% of Czechs suffer from obesity, i.e. 20% of men and 18% of women from the entire population. 47% of men and 33% of women are slightly overweight. The average value of BMI (body mass index) of the inhabitants of the Czech Republic reached 25.2, which is just above the upper limit of normal healthy weight. This value is similar to Slovenia for instance, but the rate of obesity is higher – both among women and men.

Looking more closely at the age distribution, according to the results of the survey in the Czech Republic, the proportion of people who are overweight, i.e. preobese (BMI 25–29.9) and obesity (BMI 30 and more), in comparison increased slightly with 2014 (see Figure 1). [5] It increased more in persons with preobesity, which in 2019 was almost 40%. The representation of the obese was close to 20% of the total population. Men were significantly more likely to be overweight than women. Almost seven out of ten men were overweight, while among women it was "only" one in two. It should be added that these data about height and weight were self-reported, so they can be underestimated. Unfortunately, the data from the health survey no longer reflect the changes related to the pandemic situation. Government measures against the spread of covid19 considerably changed the lifestyle of the population (e.g. transition to work from home, closed sports grounds, and considerable use of delivery services). Therefore, it can be expected that the proportion of overweight people will be even higher after the pandemic subsides.

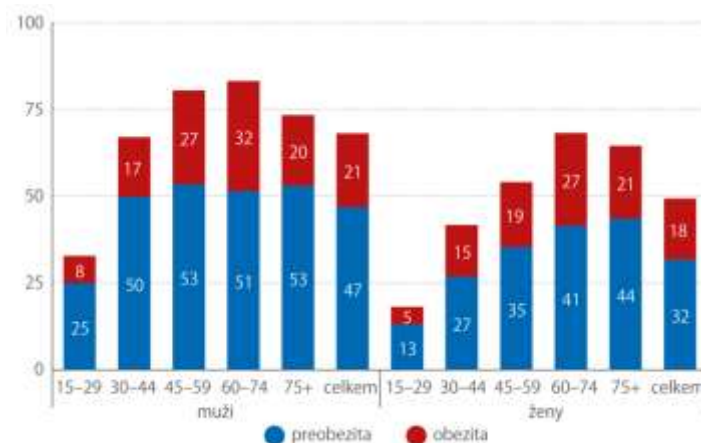


Fig. 1 Share of people with obesity and preobesity in the Czech Republic (% in 2019)

In the European context, in 2014 Czech Republic ranked 6th among European countries with 18.8% obese population. [6] In the 2019 statistics, the share of the overweight population (BMI higher than 25) reached 60 % of the Czech population in the 18+ age range and the country

ranked 3rd among other European countries.[7] This means that six out of ten people are overweight and every fifth one suffers from some degree of obesity (BMI > 30).

The available statistics show an overall increase in child obesity. While in 1991, 7 % of Czech children were overweight and 3 % were considered obese, in 2001, there were 9 % overweight and 6 % obese children. This means the number doubled over a decade. [8] Looking at some of the more recent data from 2014, there has been a two-fold increase in overweight people in the Czech Republic within the entire population spectrum since 1991. It proves that the number of obese children has doubled in the Czech child population. Every fourth child was overweight in childhood and every seventh child was obese. [9] There is sufficient evidence that the age of developing obesity plays a key role. A higher BMI at the age of adolescence is strongly linked to developing obesity-related health issues at a later age. A higher BMI in early adulthood (age 25-40) brings an increased risk of complication compared to a higher BMI at a later age. In other words, the earlier people develop obesity, the higher the risk and severity of resulting complications.

The 20-year trend in the number of overweight children, statistically tested by the Armitage trend test, increased significantly in both girls and boys. The exception was five-year-old children with a stable prevalence of overweight/obesity in the past twenty years, between 2011 and 2016 it even decreased. The tendencies vary slightly between other age groups and years, but the overall rising trend is clear. Among adolescents (17 years old), the occurrence of overweight/obesity has been monitored scarcely since 2001, yet a significant increase is being observed between 2006 and 2011 [10]. Other studies confirm the disturbing numbers [11] and the conclusion is that the increasing trend from recent years among children has been accelerated by covid lockdowns, lack of sport, and inappropriate eating habits. Table 3 shows the trend in children (up to the age of 18), the percentage being related to the entire population. [12]

Table 3 Trends in the share of overweight/obese children from No = 4386

Year	1991	1996	2001	2006	2011	2016	2021
Overweight	7.0%	5.3%	5.8%	7.2%	7.8%	7.5%	9.6%
Obese	3.0%	5.5%	7.4%	7.8%	10.2%	10.3%	16.4%

The Czech Republic is also involved in the international data collection of the HBSC study - Health Behaviour in School-aged Children (the number of monitored parameters and participating countries change over time). [13] The study is focused on researching the health and lifestyle of children and adolescents. The project takes place at 4-year intervals under the auspices of the World Health Organization and is currently implemented simultaneously in 51 countries around the world. The Czech Republic has been participating since 1994.

The HBSC study focuses on monitoring the health and lifestyle of 11-, 13- and 15-year-old schoolchildren. The long-term collection is supported by the Ministry of Education, Youth and Sports of the Czech Republic, the Ministry of Health of the Czech Republic and UNICEF of the Czech Republic. The research data also includes topics relevant to attitudes and developing overweight and obesity: physical activity and sedentary lifestyle, eating habits, and self-assessment of one's own figure (body image). Unfortunately, the data needed to determine overweight and obesity are only self-reported, but minimal trends can be observed here (no = 13000+).

According to the latest data from 2018, 15% are overweight and 6% of teenagers are obese. Problems with excess weight are more common in boys, both in the case of overweight and obesity. The number of obese boys is increasing. A significant increase in the number compared to the data from 2014 concerns the age category of 15-year-olds. We are also

registering a significant increase in the number of overweight girls aged 13 and 15. Here, too, the importance of socioeconomic status is confirmed. The prevalence of obesity is up to 3 times higher in children from families with lower income and lower educational levels.

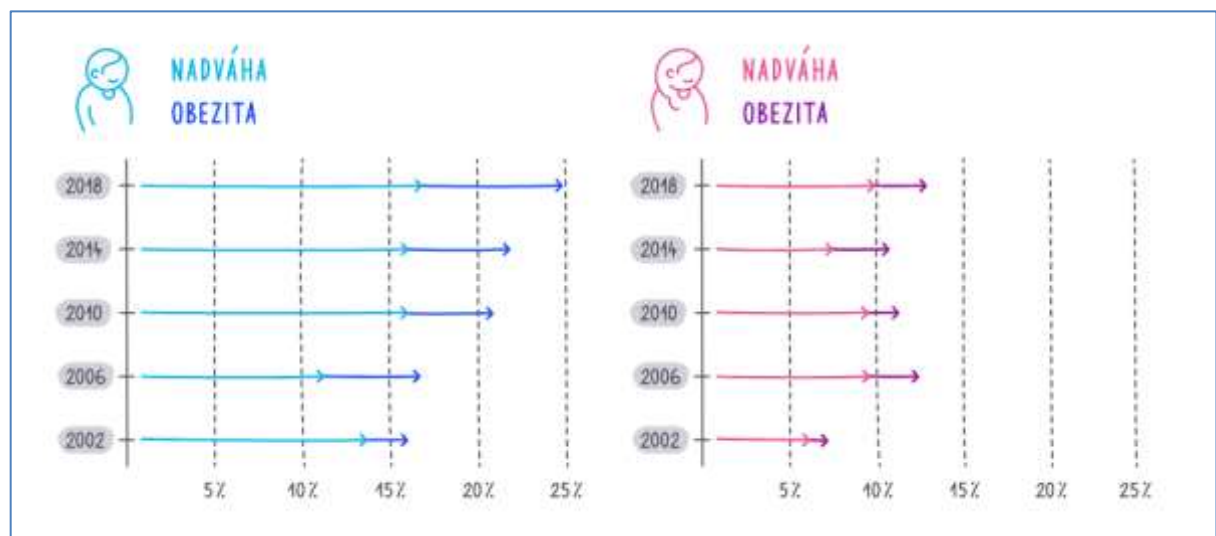


Fig. 2 Self-reported data from the HBCS project in the Czech Republic

Unfortunately, questions on body image or how children perceive their weight show that being overweight is no longer a stigmatizing element as it has been before and the population is starting to take overweight as a normal norm. In fact, 29 % of overweight or obese girls in the group do not accept this fact. For overweight boys, the figure is even 41 %. On the other hand, significantly more girls (28 %) than boys (23 %) consider their figure fat. A negative assessment of one's own weight appears more often among 13- and 15-year-old girls, where it is almost one in three (31 %). In the entire sample, one-fifth of girls with normal weight consider themselves fat. Among boys with a normal weight, less than a tenth of them sees this way.

1.2 Prevalence of EDs

Data about eating disorders are more difficult to find. Unlike the anthropometric records or self-reported data in surveys, eating disorders are recorded under diagnostic codes (F50.0–F50.9) and fall into a category of health diseases. As such, they are considered confidential and data can only be obtained through statistics that are made available by the Institute of Health Information and Statistics of the Czech Republic. From the outputs the authors could find, we know that in 2017, there were 3,731 outpatients treated with EDs and 454 were hospitalized in psychiatric wards.

In 2020, a total of 5,167 people were treated for EDs in outpatient clinics and there were 606 hospitalizations. [14] A ten-year increase in the number of cases is about 15 %. The number of patients increased the most among adolescents aged 15-17. In 2020, 1,093 of them were treated, which is an astonishing 89 % more than in 2010. Most patients, 87 %, were women and girls. High mortality exceeds 10 %. Patients die at an average age of 25. Mortality is twice that of other psychiatric diagnoses and ten times higher than that of the general population. The risk of suicide increases up to 200 times. NGO's and other initiatives dealing with EDs and providing non-medical support and counselling disclose their annual reports, but the methodology is not clear and the information value is only very approximate. *Anabell*, a registered NGO centre for support of ED sufferers and their families lists the following numbers for the past four years (Table 4) [15] The rising trend is evident, but this can also be explained not by the rising numbers

of individuals seeking help with ED, but also the growing reputation of Anabell and their wider reach.

Table 4 Anabell, a registered NGO centre for support of ED sufferers for the past four years

Year	2018	2019	2020	2021
Clients	994	1584	1545	3085
Helpline calls	475	567	431	781
Interventions	11121	17195	-	17609

1.3 Guidelines and standards

As part of the issue of obesity, from 2020 it is possible to use the code for monitoring and therapy of childhood obesity as part of regular visits to general practitioners for children and adolescents (PLDD). According to information from the chamber of GP for children and adolescents and the management of General Insurance Company (VZP), this code is regularly used by more than 25% of practitioners (i.e. more than 500). This year, data from VZP is still missing. The therapy of childhood obesity applies similarly to other diagnoses and must be treated in accordance with the clearly defined rules of the given professional society. In 2021, the Czech Obesitological Society - Section of Paediatric Obesitology updated the recommendations for the therapy of childhood obesity valid until then on the IPVZ website [16].

In cooperation with the Society of Paediatric Practitioners and the Society for Nutrition, educational materials were published that are available to parents in PLDD surgeries.



Fig. 3 Educational leaflet: Prevention of Obesity Amongst Children



Fig. 4 Educational leaflet: Thirteen Steps to a Healthy Diet for Children

Prevention of obesity is not given by a clearly defined document, it is rather common recommendations in the framework of health promotion, where other than just professional sources intervene - see the following chapter. There are some general guidelines, which were further based on a national programme called Health 2020, Health 21 and now the most current Health 2030 programs published by the Ministry of Health of the Czech Republic.

Similarly to obesity, in the case of EDs, there are recommended guidelines for psychiatric treatment published by the Psychiatric Society of the Czech Medical Association of J. E. Purkyně. [17] The therapy requires available professional differentiated care and interdisciplinary cooperation according to the degree of motivation for treatment, support of the environment, and the severity of the psychosocial and somatic consequences.

Prevention of PPP has been developing very rapidly during the last decade. In recent years, prevention in secondary and tertiary schools has focused on school and preschool children, because the problem is manifested in an increasingly younger population, just like the problem of obesity. Today, according to the WHO, health promotion is generally more recognized rather than specific prevention. Here, unlike in the case of obesity prevention, there are more official materials. Recommendations for the prevention of eating disorders for teaching staff can be found at www.healthyandfree.cz in the Teacher section. There is Methodical instruction of the Ministry of Education and Culture (Appendix 3 Eating Disorders) [18] that is currently undergoing revisions. Other strategic and methodological documents on primary prevention for schools are available. [19] There are national documents produced by the Ministry of Education and also the Concept for the capital city - Prague, generally refers to the prevention of risk behaviour and the coordination system.

1.4 National and local initiatives

Dealing with obesity

In the field of “healthy” lifestyle, unfortunately not only in the Czech Republic, there are experts, but also very often complete non-professionals or enthusiasts who give recommendations. Consequently, inappropriate, unprofessional prevention can have the opposite, undesired effect.

A national framework of educational programs at schools, which do not have a clear conceptual content, currently affects this issue. Some schools, although in a very playful and interesting way for children, promote a not quite optimal diet, especially a purely vegan one. Other significant stakeholders are the professional societies Czech Obesitological Society, Society for Nutrition, National Health Institute, Healthy Nutrition Forum, Association of Nutritional Therapists, Section of Nutritional Therapists at the Association of Nurses, Section of Nutrition and Nutritional Care, Section for Eating Disorders at the Psychiatric Society and others. In addition, the Food Chamber of the Czech Republic comes into play, because it has been involved in the (un)necessary acceptance of the NutriScore. For this reason, they are obliged to comment on individual nutritional criteria that refer to the total energy value of the diet, namely the amount of simple sugars, salt and fibre, i.e. parameters associated, among other things, with obesity. Consequently, even the retail chains themselves get involved in “education” and have various campaigns from promoting “healthy” eating [20].

Last but not least, we also have to take media in consideration, be it TV, radio or social networks. Here it is possible to come across experts from the field as well as absolute non-professionals who represent selected brands. For instance, the support from the McDonald’s chain for a very popular band Mirai gave rise to the *Mirai menu* (1700 kcal) that includes a Bic Mac hamburger, fries, any drink (the band recommends Coke), caramel ice cream sundae with cookie sprinkles, sweet and sour sauce, and two chicken nuggets.

Due to this large media confusion, several information portals were created that include basic information about a healthy diet, which are approved and guaranteed by professional societies. The project *S Děťmi proti obezitě* (With Children Against Obesity) is one of them and is dedicated to children with risk of obesity. At the beginning, the ambition of this project was to create regional counselling centres in cooperation with trained nutritional therapists (accredited fields of study: B.Sc., M.Sc.) or nutrition counsellors (having passed a qualification courses under the Ministry of Education), but due to a lack of funds and professional support from PLDD, this was not possible implemented. What remained is an informational web portal containing a large amount of material for both parents and experts for use in the education of parents and older children. There is now a similar offspring, *S děťmi proti nadváze* (With Children Against Overweight), supported and approved by the Ministry of Health and an EU OP grant.

Another comprehensive initiative – although not purely dedicated to obesity or eating disorders – is the *Víš co jíš* (You Know What You Eat) [21]. The *Teens* section contains educational program and materials aimed at schoolchildren. Its individual components were created in cooperation with the Food Safety Information Centre of the Ministry of Agriculture, the Ministry of Education, Youth and Sports, the 3rd Medical Faculty of the Charles University Prague, the Ministry of Health, the Institute of Agricultural Economics and Information and the Society for Nutrition.

The teaching program is intended primarily for teachers and pupils of the 2nd grade of elementary schools. Its goal is to offer quality supporting educational material that is based on verified professional sources and has the ambition to make the teaching of the given topic more attractive. It is divided into six basic areas related to nutrition and food safety: Nutrients and water, Nutritional recommendations, Nutrition and disease, Foodborne diseases and their prevention, Food poisoning, Food and safety. Each teacher can choose either the entire program or only individual topics for their teaching. Some of the topics contain information specifically about obesity and PPP, their prevention and subsequent support in nutrition. The curriculum is

complemented with workbooks for pupils in the 6th and 7th grades and for pupils in the 8th and 9th grades of elementary school, which serve to practice and acquire basic knowledge in the field of nutrition and safe and healthy eating. Another teaching aid to the teaching program are tests, where students can verify their knowledge.

Another nationally available portal for the general public is the National Health Information Portal - NZIP. Its goal is to provide the lay public with information in the field of healthcare, which is guaranteed by selected experts on the given issue in the Czech Republic. These people work in several Czech organizations directly dealing with healthcare; namely the Czech Medical Society of Jan Evangelista Purkyně, the State Health Institute, the Ministry of Health and the Institute of Health Information and Statistics of the Czech Republic. NZIP offers trustworthy, verified, and guaranteed information. There is a separate subpage dedicated to EDs including symptoms, prevention, and a treatment algorithm or options for follow-up care and support [22] as well as for obesity [23].

The website www.vimcojim.cz (I Know What I Eat) is purely about nutrition in the sense of rational recommendations supported by national authorities in the field of nutrition (Society for Nutrition) for a healthy population. This initiative not only runs a website, but also organizes various challenges via social networks. A recent one was called *Get in shape - actively and healthily*. They also cooperate with health insurance companies to promote and motivate the population to a healthier lifestyle.

Another professional-based entity that organizes both national and regional conferences focused on nutrition of individual groups is the Society for Nutrition. It regularly holds Diet Nutrition conferences and issues recommendations for the population of the Czech Republic in the field of healthy eating. It is a recognized and cooperating authority for the Ministry of Education, Culture, Sports and Science of the Ministry of Education and Culture as well as the Czech Obesitological Society, for which they regularly organize the conference *Child nutrition and obesity in theory and practice*.

A national institute that creates recommendations and provides information from research studies or various monitoring projects is the State Health Institute. The group around professor Ruprich is currently very active and publishes popular articles available through several sources - from websites [24] through magazines published by the above-mentioned Society for Nutrition or the website of the Food Safety Information Centre under the Ministry of Health.

Three Czech professional organizations are involved in the creation of web content, as well as posts on social networks and various conferences and seminars/webinars on the topic of nutrition for various groups, including overweight/obese people, people with EDs: the Association of Nutritional Therapists, Section of Nutritional Therapists at the National Association of Nurses, and Section of Nutrition and Nutritional Care. Their actions are both on national level, but also on local scale in the place where individual members perform their profession. At the moment, there are also separate consulting rooms for nutritional therapists outside medical facilities. Some of them try to popularize the area of nutrition, refute various popular myths, but also fight with the media celebrities and YouTubers who often give misleading information about diets or promote unhealthy food for financial partnership.

For instance, there is the initiative *NeHladu* (No to Hunger) [25] that currently cooperated with the largest internet supermarket Rohlik.cz or the Anabell center for people with EDs (see below) to promote healthy eating habits. The Institute of Modern Nutrition (IMV) [26] brings together nutritional therapists in a "fight" against misinformation and it is very popular in the Czech Republic. The IMV is a good example of how they went from organizing conferences and seminars to local counselling, mostly thanks to their popularity on social networks and the ability to attract a young audience.

We should also mention initiatives trying to improve the nutritional quality of school meals. School catering is again unique to the Czech and Slovak Republics in that the method, quality and standards for catering in pre- and school facilities are regulated by a national decree,

an appendix to bill. The required components of a daily/weekly diet are given in exact numbers and portion sizes. Until recently, the standards for certain meals had been based on a diet dating back to from 1980's. The *Skutečně zdravá škola* project (Truly Healthy School project) [27] comprehensively develops the culture of eating in all ecological, economic, social and health contexts. Currently, almost 500 schools across the country are involved in the program. In order for a school to be declared "Truly Healthy", it must comply with changes in raw materials and food preparation, especially in the addition of fruit and vegetables, but also legumes, reduction of simple sugars, salt, highly processed foods, etc. At the same time, the school must educate pupils in the field of healthy nutrition – whether in the form of lectures or workshops is up to each of the lecturers in the given region of the republic, although the methodological materials, brochures and other materials used are the same for the whole country.

There is no comprehensive overview of the available counselling services in the Czech Republic for clients looking for help in the area of nutrition or EDs. There are piecemeal resources either in the sphere of nutritional therapists: there are mainly counselling centres run as medical facilities, or nutrition counsellors operating under the association Alliance of Nutritional Counsellors. A new network of nutritional counselling centres called *Nutriadapt* is currently being created. There is also a completely independent portal with a catalogue of nutritional therapists called *vyzivovi-poradci.cz*. However, the quality of the counselling and the services provided is not centrally checked.

At present, there are two organizations developing a unified methodology for their regional offices and/or individual lecturers and counsellors for people with overweight or obesity: STOB (Stop to Obesity) [28], supported by the above-mentioned renowned authorities in the field of nutrition, and a purely commercial project called Nutridapt [29]. The organization STOB was founded in 1990 and has long been focused on losing weight without diets or strict restrictions. It tries to provide guidance on how to work with your thoughts, emotions and behaviour, which in most cases make successful weight loss and lifestyle changes possible. Their approach is based on the cognitive-behavioural psychotherapy (CBT), which teaches people to work with minds, emotions and behaviour. CBT is successfully used to manage any changes in people's habits. A number of studies have confirmed the effectiveness of the CBT approach and it is also widely used to treat EDs.



Fig. 5 Prevention of Obesity: Seven Stages of a Life Change

STOB operates on several levels. On the one hand, it creates nationally available content on websites, holds seminars for the lay and professional public on various topics, always aimed at maintaining a healthy weight and a healthy lifestyle. They regularly organize Health Day in Prague, organize residential courses in the Czech Republic and abroad, and “outpatient” courses with the aim to reduce clients’ body weight. Furthermore, through training in the CBT methodology, STOB creates a system of locally operating CBT tutors who apply this methodology in their everyday work. There is no uniform methodology whether to work individually or in groups. The scope and length of care is entirely up to the tutor. However, STOB's lecturers are psychologists, nutritional therapists, nutritionists, but also medical doctors who use CBT in obesitological clinics or spas. On the STOB's website, there is a list of lecturers trained by them. At the same time, STOB offers a large number of books, educational brochures, and leaflets, record sheets to keep track of nutrition and exercise, as well as an Internet-accessible food database, recipes, and instructional videos. In 2008, the first internet application, Hravě-žij-zdravě [30] was launched, which helped those losing weight through an online environment. Today, the website is mainly used for children. The STOB Club website targets adults and teenagers and people can create their personal online profile, where they record their successes and progress using templates with self-coaching materials.

Nutriadapt is a of the franchise system of commercial consulting, where the methodology, materials for clients, recipes etc. are created by the national headquarters. Unfortunately, visiting the centres and a certain range of services are paid and the clients have to purchase complementary products offered by Nutriadapt.

Among the nationwide functioning commercial projects that no longer have a unified visual identity, but a unified basic methodology and centralised training of staff is *Metabolic balance* [31]. They offer a database of company-trained experts – both nutritional therapists and nutritionists. No products must be purchased, it provides a system of nutrition based on tailored recipes. The Naturhouse project also has nationwide training, guidance, and support materials for clients, but the entire consultancy is based exclusively on its own products. There are of course innumerable independent counsellors offering their own methods, selling their own products and recipes, some operating online and running on-line counselling as well.

Dealing with EDs

More than the area of obesity, it is the EDs that are addressed with more attention in the system of early detection and the subsequent care at the non-state level. Already the first step mentioned in the recommended procedures, the first contact for prevention and early intervention for patients and their family members are internet chats and self-help groups. [32] Then it depends on their professional ability to motivate patients for diagnosis and treatment. Efficiency was confirmed mainly among groups supported by experts. In the case of children and adolescents, the family or the school usually detects the first symptoms.

The largest organization that has branches in the three largest cities in the Czech Republic is the Anabell Centre. Within the centres (Prague, Brno, Ostrava) it offers free professional social counselling during which the client can attend up to 10 free sessions regularly with a counsellor and they focus directly on the problem with food and eating disorders. For children under 12, the service is accessible with parents or legal representatives, children over 12 years of age can access the service unaccompanied. Anabell also offers aftercare service, which is intended for clients after hospitalization, or at least after outpatient treatment they receive for EDs. It also hosts group sessions where clients aged 15 and over who have experience with EDs can meet. The group is led by a peer consultant who has been through this problem himself/herself.

Some branches also offer Internet counselling that clients can contact at any time (via online chat) or receive an e-mail answer within 3 working days, or they can contact the Anabell crisis line, which operates nationwide every working day. Although the centre as such is not available throughout the country, Anabell has a non-public list of collaborating nutritional

therapists, psychiatrists and psychologists, to whom they forward interested clients so that they are as close as possible to the client's home. The Anabell is connected to psychiatric centres dealing with the treatment of EDs and after the end of treatment covered by health insurance in the Czech Republic, clients are referred directly to Anabell for follow-up care. Unlike the case with obesity, there is no other initiative of this extent in the Czech Republic.

PPP Info (PPP = ED) is a well-designed website providing a directory of counselling centres, sources of information for people seeking help with EDs. [33] Clients can also use the NGO E-clinic - anonymous support project. [34] The portal contains professional and popular articles on eating disorders, provides self-help materials (e.g. a manual for restoring a normal eating regime in case of overeating), information on treatment and contacts, procedures for teachers (school competence, recommendations for choosing a preventive program), and guidelines for parents. People can chat anonymously with a clinical psychologist specializing in eating disorders. There are chats for parents, partners and loved ones of those who suffer from an ED. All communication is anonymous and free.

In 2019, the Nepanikař (Do Not Panic) project was launched [35], which – apart from the usual website portal – also includes the first Czech mobile application that helps users free of charge and provides the first quick psychological assistance. In 2020, Nepanikař started offering anonymous and free chat and e-mail consultation, and created an extensive Help Map, which contains over 10,000 contacts to psychologists, psychotherapists, psychiatrists, educational and psychological counselling centres and crisis centres. In 2021, the project started to offer online therapies that make it easier for people to collaborate with experts. Last but not least, Nepanikař introduces and educates the general public about the topic of mental health and EDs through workshops.

1.5 Conclusion

As indicated above, the number of young people suffering from overweight/obesity or EDs in the Czech Republic is on the rise. The numbers referring to weight problems vary slightly according to the methodology used, but the statistics in general indicate an increasing trend over the past few years. If motivated, people with weight problems can receive good support from a large number of resources funded by the government and operating on national levels.

However, not all the initiatives and NGO are professionally led and can be considered trustworthy. It is clear that losing weight is a good business venture and some of the agencies or companies offering education and counselling are doing this for profit. On the other hand, in the case of EDs and its early detection and treatment, there are only a few initiatives operating nationwide, but they provide professional, expert advice and help. They are reliable and credible. This is most likely because an ED is, quite rightly, considered a serious medical diagnosis, whereas excess weight is seen as a pervasive, omnipresent civilization disease and research suggests that the population starts to tolerate it. There are serious health risks associated, it puts strain on healthcare budgets and harms the economy, but the public does not take it seriously enough.

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2. Healthy eating chapter for young people with obesity and EDs. Local report – Spain

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Abstract. *Obesity is one of the most critical global health problems. According to EUROSTAT, in 2019, 2.0% of the population of Spain were underweight, whilst 44.3% had a normal weight to height with 16% of the population being diagnosed as Obese. Even though Spain like many other countries around the world has been implementing a multitude of national and local programmes to try to combat obesity such as the NAOS strategy created by the Government of Spain and other local and private initiatives, which will be discussed in this chapter, the incidence of obesity is still increasing in all age groups. This is made more paradoxical by the fact that Spain traditionally has had a Mediterranean Diet (MD) that has been proven to be effective in terms of preventing obesity-related diseases.*

2.1 Introduction

On World Obesity Day, which took place on the 4th of March 2022, Dr. Tedros, the Director-General of WHO said the following, ‘The COVID-19 pandemic has rightly commanded the world's attention for more than two years but at the same time another global health crisis is continuing to grow and to kill; the obesity crisis. Globally obesity has nearly tripled since 1975 and more than one billion people are obese, almost five million every year are associated with obesity, and people with obesity are three times more likely to be hospitalized with COVID-19. Its economic cost is estimated to be up to 3 percent of gross national product globally.’ [1]

It is a worldwide problem, and not only confined to developed countries but spreading contagiously, like the aforementioned virus. The risks at stake for humans, although obviously

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different, could be compared to the effects of climate change; we, humans, are killing the environment and ourselves, slowly but surely.

The constitution of the WHO (World Health Organization) entered into force on the 7th of April 1948. Its first sentence states, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. [2] This is important to emphasize when discussing obesity and its connected diseases since, although the word ‘complete’ has been questioned, there is no questioning the fact that obesity is strongly linked to the physical, the mental, and the social. Healthcare is not only about *treating* but also about *preventing*, and this is critical to underline when discussing obesity and related Eating Disorders (ED), such as Anorexia Nervosa and Bulimia Nervosa, which are stigmatized societal problems as well as specific health ones. However, just as with the environmental crises, action at different levels is being made around the world, and Spain is no exception. These actions, at both national and local levels, involve a wide range of professionals from many different but integrated fields, such as doctors, nurses, nutritionists, teachers, psychologists, and chefs, to name a few.

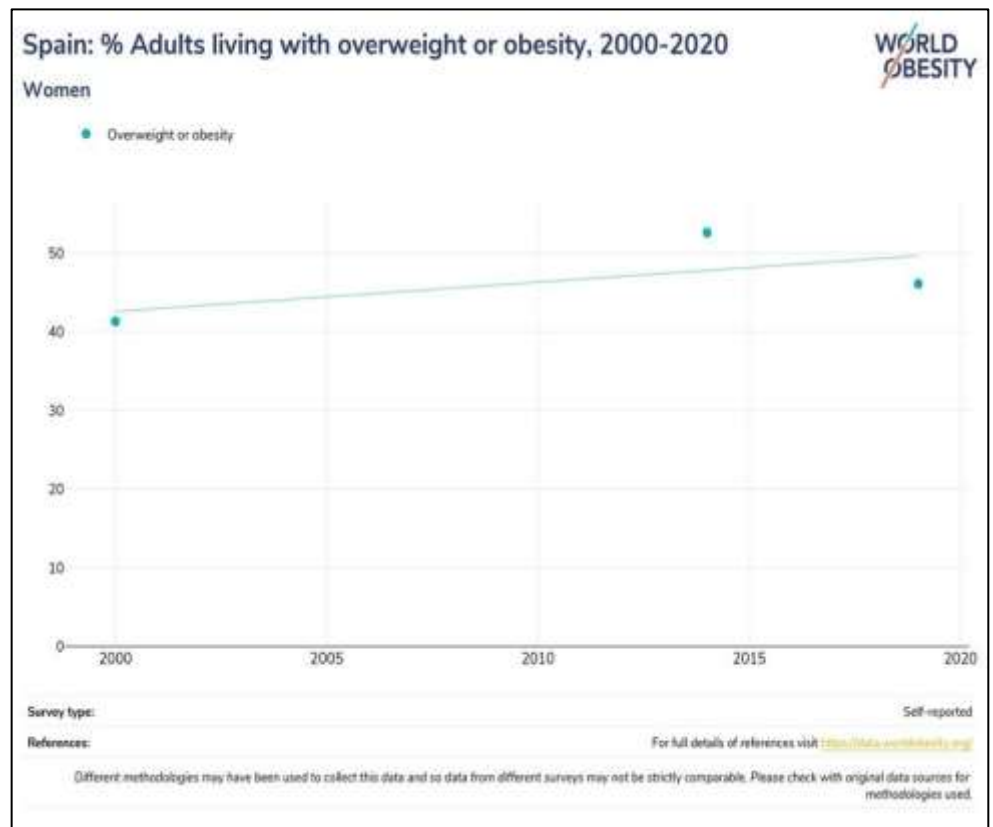
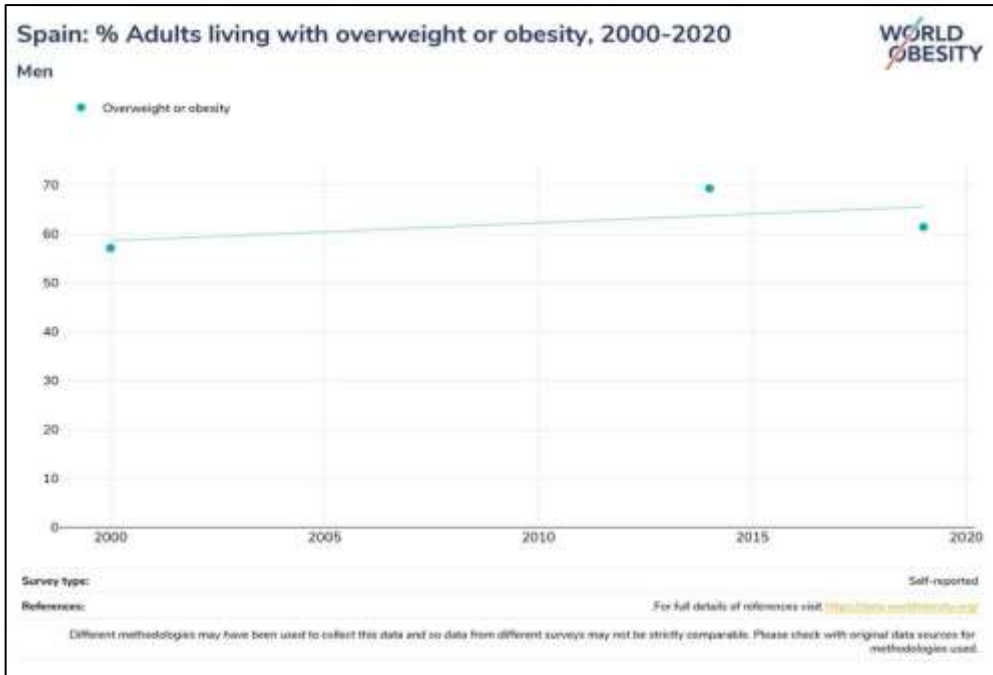
In this short chapter we will discuss the prevalence of obesity (adult and paediatric) both in Spain and in the other countries participating in the Connected4Health Erasmus Project, EDs in Spain, as well as looking at Spanish Guides and Standards, and finally, initiatives to combat this serious and increasing problem.

2.2 Prevalence

According to EUROSTAT, in 2019, 2.0% of the population of Spain were underweight, whilst 44.3% had a normal weight to height with 16% of the population being diagnosed as Obese. [3] The World Obesity Federation [4] reported that in the same year, 2019, 37.8% of the adult Spanish population (over 18 years old) were overweight, and, in terms of distribution by sex, there is a far higher incidence in males for overweight: 44.9% compared to 30.6% for females, while in obesity the difference is far lower: 16.5% for males and 15.5% for females (Figures 1 and 2).

It is important to note that unless otherwise stated overweight refers to a BMI (Body Mass Index) between 25 kg and 29.9 kg/m², while obesity is > 30 kg/m². Even though there are some limitations to using BMI as the gold standard measurement in terms of obesity and overweight, with some studies stating the importance of WHR (Waist-hip circumference ratio) for the sake of convenience and ease we will be opting for the BMI status. [5]

In an article published in El Pais in 2019, it was reported that in an investigation by Hospital del Mar in Barcelona they estimated that by 2030 80% of men and 55% of women in Spain would be overweight. The authors of the study stated, “There are currently 25 million people with excess weight, three million more than a decade ago. In a conservative scenario, if this trend continues, there will be another three million more – 16% more cases – by 2030.” They stressed that these conclusions were alarming not from an aesthetic point of view but because being overweight can mean a higher risk of suffering several diseases, including diabetes, hypertension, stroke, cancer and other cardiovascular conditions. [6] Figure 3 shows the estimations for adults with obesity, the annual increase in child obesity 2010-2030, the annual increase in adult obesity 2010-2030 as well as the Global preparedness ranking for Spain.



Figs 1 and 2 Adults living with overweight and obesity in Male (1) and Female (2) in Spain

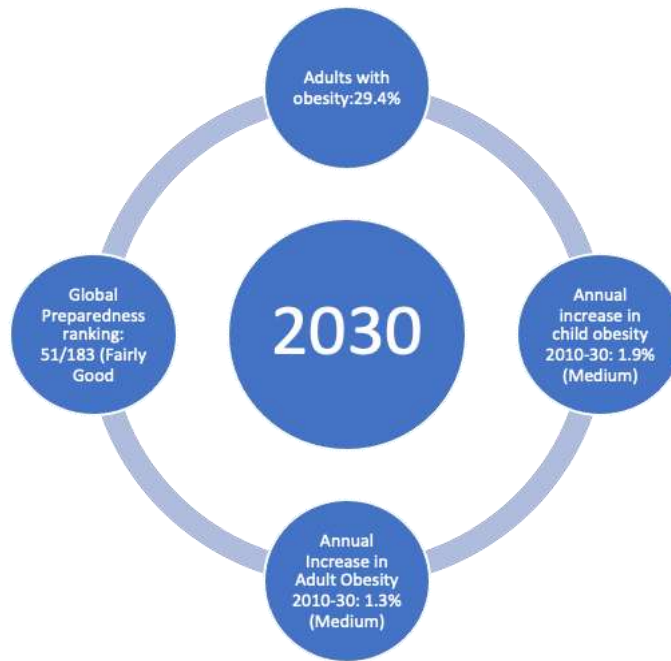


Fig. 3 Obesity estimates for 2030 [7,8,9]

We decided to use the World Obesity Federation predictions for 2030 obesity rates to compare the countries involved in Connected4Health¹⁷ in 3 areas: 1) Adults with Obesity by 2030 2) Annual increase in Child Obesity 2010-2030 and 3) Global Preparedness Rankings.

It is noteworthy that Spain has the 3rd highest estimation for Adult Obesity for 2030, with a percentage of nearly 30%, and is bracketed as High by the World Obesity Federation; the only two countries with a higher estimation of prevalence are the Czech Republic and Lithuania (Table 1). However, when discussing the annual increase in Child Obesity (Table 2) Spain fares far better than the majority of the C4H countries and is rated as a medium while most are rated as Very High. In terms of Preparedness (Table 3) Spain is well below the average in the C4H countries, faring more than 8 times worse than the most prepared country, which is Portugal, and ranks eighth out of the 183 countries studied.

Table 1 Adults with Obesity by 2030 (In descending order - worst to best [7,8,9])

Country	Percentage/ Obesity	Rating
Czech Republic	31.2%	Very High
Lithuania	31.2%	Very High
Spain	29.4%	High
Romania	28.9%	High
Portugal	28.1%	High
Serbia	27.8%	High
Italy	25.0%	High

Table 2 Annual increase in Child Obesity 2010-2030 (in descending order - worst to best [7,8,9])

Country	Annual increase	Rating
Romania	5.5%	Very High
Serbia	4.5%	Very High

¹⁷ Even though Italy is not within the countries working on the C4H project we added their rankings to the tables

Czech Republic	3.9%	Very High
Lithuania	3.9%	Very High
Spain	1.9%	Medium
Italy	1.6%	Medium
Portugal	1.15%	Medium

Table 3 Global Preparedness Rankings (From Best Prepared to Worst Prepared) [7,8,9]

Country	Preparedness	Rating
Portugal	8/ 183 countries	Good
Italy	16/183 countries	Good
Czech Republic	21/183 countries	Good
Lithuania	27/183 countries	Good
Spain	51/183 countries	Fairly good
Serbia	60/183 countries	Fairly good
Romania	80/183 countries	Average

In a recent article Eating Disorders (ED) have been stated as ‘a group of severe disorders related to eating behaviour, caused by excessive concern over body image and the acute fear of weight gain’. Sufferers show physical, psychological, and social imbalances and the aetiology of the diseases (predominantly Anorexia Nervosa (AN) and Bulimia Nervosa (BN)) is multifactorial. Genetic, physiological, societal, and other factors influence and trigger the diseases. ED are normally associated with first-world or developed countries, but not exclusively. However, we are interested in their predominance in Spain, and in Figure 4 the dramatic rise in recorded cases of AN and BN can be seen, with a rise from 14,659 cases in 2011 to 79,202 cases in 2020; a nearly 5-fold increase. [10,11]

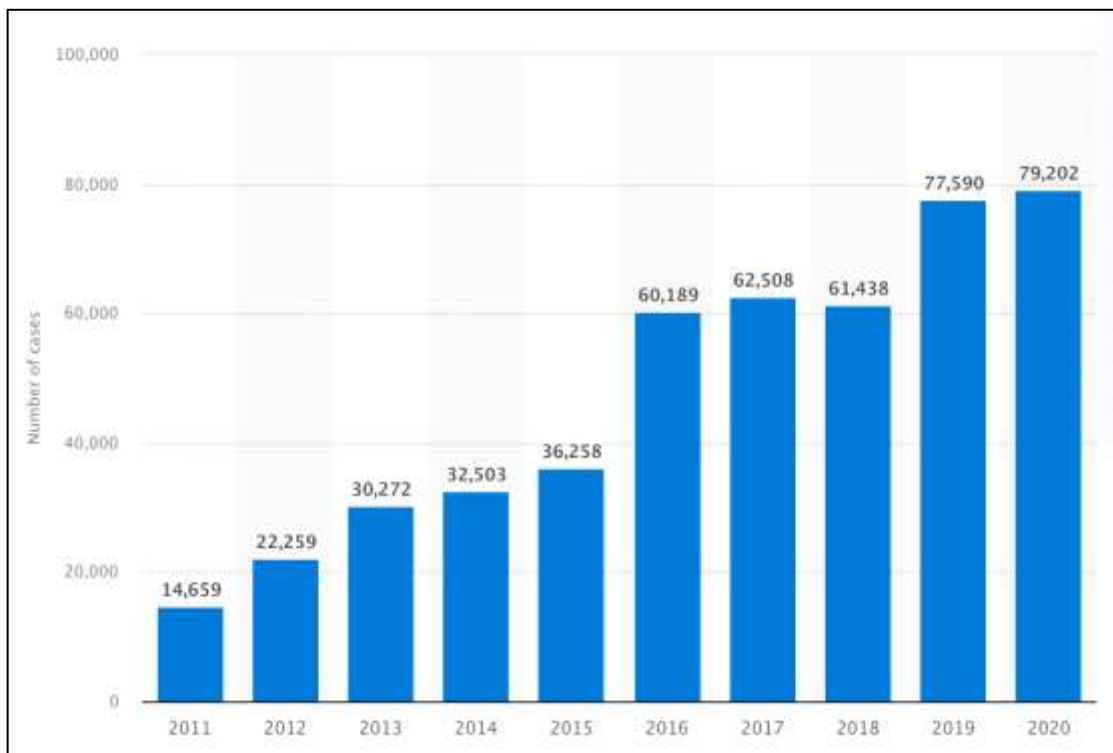


Fig. 4 Number of cases of anorexia nervosa or bulimia recorded in Spain from 2011 to 2020 [10,11]

2.3 Guides and standards

Guide to a healthy diet

A) The Mediterranean Diet (MD)

According to a panel of experts for US News & World Report, *The Mediterranean diet*, has been named for the fifth consecutive year the best diet. It is 'based on traditional habits in regions of Greece, Italy and Spain', rich in plant-based foods, with moderate amounts of lean proteins and healthy fats. The diet has also earned top ranking as the easiest diet to follow, **the** best plant-based diet, for heart health, and for diabetes. Working with the Harvard School of Public Health and the World Health Organization, Old ways, a non-profit food think tank in Boston, developed a consumer-friendly Mediterranean diet pyramid (Fig. 5) that offers guidelines on how to fill your plate – and maybe a glass of wine – the Mediterranean way.

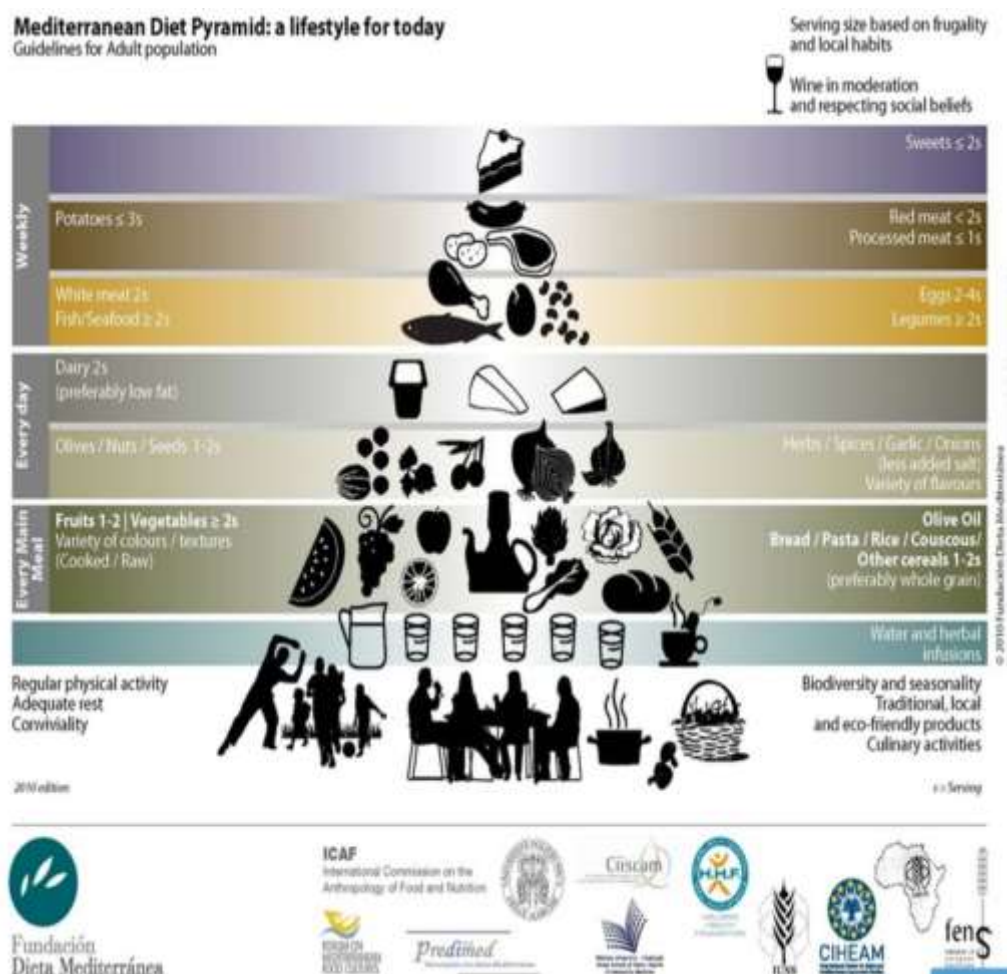


Fig. 5 Mediterranean Diet Pyramid

This pyramid shows how countries bordering the Mediterranean Sea eat, the so-called 'Blue zones' where people tend to live the longest and healthiest lives. The Med Diet consists of plant-based foods like fruits and vegetables, potatoes, whole-grains, beans, nuts, seeds and extra virgin oil; a moderately high intake of fish; low consumption of red meat, poultry, and sugar; moderate dairy consumption (preferably low fat)- typically cheese and yogurt; and moderate intake of ethanol (in the form of wine). [12]

However, what is the secret to this diet being the best?

i) Nutrients in Mediterranean diet compared to the guidelines for daily nutrient uptake in U.S.A

When comparing the Med Diet to the guidelines for daily nutrient uptake in an American diet, we find that it only exceeds in total fat, calcium and in vitamin A and B for women and iron for men, and that despite those results it is still almost identical to the recommendation for 19–50-year-old Americans. Proving that the Med Diet is between the recommended guidelines and that it can be considered one of the best. [13]

ii) Importance of Olive oil

On the other hand, olive oil is one of the essentials for the Med Diet as Dr Ramón Estruch believes that ‘olive oil is the key to the Mediterranean diet’. Consumption of four to five tablespoons of raw extra virgin olive oil per day not only wards off heart disease, but also cognitive impairment and depression. [14]

iii) Mediterranean life-style

The overall dietary pattern within the Med Diet plays an additional role, e.g., high fibre positively affecting the microbiome, and even more the myriads of non-fat micro-components. Therefore, the dietary pattern as well as the diet diversity per se present a healthy and balanced composition with energy, macro- and micronutrients perfectly fitting to most nutritional guidelines. In addition, environmental, socio-cultural and life-style factors seem to present an uttermost important additional precondition for this diet to be effective in immunomodulation. The food being grown locally and sustainably, being minimally processed and eaten freshly, prepared at home, eaten in a pleasurable familiar conviviality, the moderate consumption of wine, as well as people having a rest after the meal, together with regular physical activity—all these factors seem to be necessary equipment for the Med Diet to positively affect human health. Furthermore, the fact that Mediterranean populations live in environments connected to the sea, coasts, and mountains, allowing them to exercise in everyday life within their millenarian historical evolution, should not be underestimated. Therefore, all these factors need to be considered when performing transferability studies of this diet to people all over the world.[15]

B) Spanish Dietary Guidelines

The Mediterranean lifestyle is crucial to the Spanish dietary guidelines.

Food guide

Spain uses a food pyramid with dietary recommendations in line with the traditional Mediterranean diet. The food pyramid is divided into food groups classified under three levels of consumption: daily (wholegrain cereals and products, fruits, vegetables, olive oil and dairy products), weekly (fish, poultry, pulses, nuts, potatoes, eggs, red meat, and meat products) and occasionally (sweets, snacks and sweetened beverages).

The pyramid (Fig. 6) also includes recommendations on physical activity and what foods to take according to physical activity level.



Fig.6 Healthy Eating Pyramid. Spanish Society of Community Nutrition (SENC)

Finally, the Spanish guidelines include the following messages:

- Enjoy a variety of foods. Divide your daily food intake into five or six small meals, for example: breakfast, snack, lunch, snack and dinner.
- Breakfast is an important meal in your diet.
- Eat plenty of cereals, preferably wholegrain.
- Try and eat five portions of fruits and vegetables every day.
- Eat milk and dairy products every day.
- Eat fish two to four times a week.
- Eat small amounts of fat and high-fat foods.
- Use good fats, such as unsaturated fatty acids (olive oil), omega-6 (sunflower oil and soya oil) and omega-3 (nuts and soya oil and fatty fish).
- Prefer carbohydrates and fibre-rich foods.
- Limit salt intake to less than 5 g per day.
- Water is the best drink – drink at least 1.5 litres every day.
- Watch your weight and stay active. Do physical activity regularly. [16]

On the other hand, the following table focuses on the recommended daily and occasional liquid consumption for an average Spanish adult. [17]

Daily consumption	Occasional consumption
Tap, mineral or spring water with limited salt content	Sucrose drinks
Tap or mineral water with higher salt content; no sugar or fructose-sweetened soft drinks, non-caloric drinks; Non-sugar-sweetened tea, coffee, or herbal teas.	Fructose or other sweetened drinks, carbonated or not.
Beverages with caloric and interesting nutrient content: fresh juice, low-fat no added sugar milk or dairy drinks, low-fat soja or vegetable drinks; non-alcohol beer; sports drinks, sugar-sweetened tea, coffee, or herbal teas.	Alcoholic drinks
Overall balance	10 glasses + food + beverages

2.4 National and local initiatives

Spain has developed many national and local programmes to raise awareness of the problem of obesity, and in the following section, we will highlight the most important national and local programmes.

a. National campaigns

In 2005 the Spanish Government, AESNA (Spanish Agency for the Food Security and Nutrition) set in motion the NAOS Strategy (Strategy for Nutrition, Physical Activity and Obesity Prevention), and in 2011 the NAOS Strategy was consolidated and promoted by Law 17/2011 of July 5th on Food Security and Nutrition. The motto of the strategic campaign is “Eat Healthy and Move!” whose principal aim was to prevent overweight and obesity and contribute to lifestyle changes.

The main strategic lines of action of the NAOS Strategy cover the entire life cycle, prioritizing measures aimed at children, and adolescents and with special attention to the needs of the most vulnerable socioeconomic groups and are as follows: [18,19]

Health protection

The NAOS Strategy develops specific actions and interventions with common approaches, to protect health more effectively based on scientific evidence, facilitating access to a varied, balanced and more moderate diet both in terms of calories, as well as in the content of fats, sugars, and salt, promoting the reformulation of foods, and providing the most appropriate information that facilitates healthier decisions and choices in the consumer, helping to create environments for the adoption of more active lifestyles, and reducing the pressure of food marketing in the children through an advertising self-regulation code, the PAOS Code.[18,19]

Prevention and health promotion

All European and global health policies have been establishing recommendations and declarations in which countries are urged to undertake preventive actions, as a cornerstone of

the global response to Non-Communicable Diseases (NCDs) and throughout the entire cycle of life. For this reason, the NAOS Strategy establishes lines of action and specific, comprehensive and multisectoral actions that contribute to reducing the degree of exposure of people and populations to modifiable risk factors (inadequate diet and sedentary lifestyle, physical inactivity) and their basic determinants, always seeking alliances and common efforts and thus strengthen health and surveillance systems, and improve prevention and control as well as reduce the burden of related non-communicable diseases.

Among the actions for the prevention of obesity and related diseases, awareness-raising actions are carried out aimed at different population groups about the benefits of a healthy and varied diet and physical activity. The objective is to establish simple and appropriate didactic communication and information strategies that facilitate changes in lifestyles and that the population acquires certain knowledge that allows consumers to be more demanding with their health and make more appropriate choices in their eating habits and physical activity. Some of the sensitization and awareness actions can be consulted in the Educa NAOS, Campaigns, and Publications sections.

Information and visibility actions are also carried out, such as the NAOS Convention, an annual update and debate forum in which renowned experts participate, and the NAOS Strategy Awards, which aim to recognize and give visibility to those actions or programs that contribute to the prevention of obesity, through the promotion of a healthy diet and the practice of regular physical activity, within the framework of the NAOS Strategy. Multisectoral collaboration actions through coordination and cooperation between the different administrative levels (regional and local) are carried out with the aim of implementing effective programs at the different levels with a focus closely on the citizen and supporting the role of governments, regional and local.

In addition, intervention programs and good practices have been developed in the population, such as the Fifty-Fifty Program, directed by Dr. Valentín Fuster, in order to comprehensively improve health in adults by modifying their health habits through peer education. [20, 21, 22]

Monitoring and evaluation

The NAOS Strategy has the Nutrition and Obesity Study Observatory, as a monitoring and follow-up system in order to control the prevalence of obesity and overweight in the Spanish population and its determining factors, and to assess whether the actions carried out in this area of action are being effective.

The Observatory was formally created by Agreement of the Council of Ministers in development of article 38 of Law 17/2011, on Food Safety and Nutrition and was configured as an information system to know the nutritional situation and the evolution of obesity in the population. Spanish population and as a meeting platform for all the agents involved in which the objectives of the NAOS Strategy (promotion of a healthy diet and practice of physical activity) converge. The Observatory is a collegiate body, attached to the Ministry of Health, Social Services and Equality. Its president is Dr. Valentín Fuster and it is made up of members that are represented by the main agents involved in this field: State, Autonomous, local administrations, scientific societies, professional associations, consumer associations, the food industry and drinks and restaurant and distribution sectors.

- The National Plan for Official Control of the Food Chain (PNCOCA) is the document that describes the official control systems throughout the entire food chain in Spain, from primary production to the points of sale to the final consumer. The Plan is complete and comprehensive and describes the official control actions of the different Spanish Public Administrations.
- The National Plan is evaluated through the preparation of an **annual report** on official control results, which is sent annually to the European Commission and the Cortes Generales.

- Recommendations of Physical Activity for health and the reduction of sedentary lifestyle in the population (includes recommendations in population from 0 to 17 years). Strategy for Health Promotion and Prevention in the National Health System (2015) of the MSSSI. Assumed by the NAOS Strategy in 2015
- Collaboration PLAN for the improvement of the composition of food and beverages and other measures 2020
- Nutrition and Physical Activity Campaigns (see below for the 2018 example)
- The **National Nutrition Day (DNN)** is celebrated on May 28 and is an initiative organized annually by the Spanish Federation of Nutrition, Food and Dietetics Societies (FESNAD), in collaboration with the Spanish Agency for Consumer Affairs, Food Safety and Nutrition (AECOSAN), in which the importance of maintaining habits for life is recalled. The motto chosen for the XVII Edition of the National Nutrition Day has been "**Legumes: Your healthy option all year round**" in order to inform the entire Spanish population of the importance of incorporating this food into the weekly diet of both adults and children in all seasons of the year.
- **Prizes** - On July 14, 2022, the call for the XVI NAOS Strategy Awards, 2022 edition, was published in the Official State Gazette No. 168, by Resolution of July 6, 2022, of the Spanish Agency for Food Safety and Nutrition of the Ministry of Consumer Affairs.[23, 24, 25].

b. Local campaigns

The Gasol Foundation

The Gasol Foundation was founded in 2013 by NBA Champion brothers Pau and Marc Gasol. Originally from Spain, the Gasol's have garnered the national and international spotlight for both their athletic accomplishments and dedication to philanthropy. From a very young age, they have shared a passion for children's health inspired by their parents who were both in the medical field.

Recognizing that childhood obesity is one of the greatest challenges threatening children's health today, Paul and Marc vowed to combat the childhood obesity pandemic by leveraging their platforms, relationships, and financial resources to provide as many children as possible with the knowledge and tools needed to enter adulthood physically and mentally equipped to live healthy, productive, and successful lives. [26]

Gasol Foundation studies include:

- The PASOS 2019 study, led by the Gasol Foundation, evaluates the level of physical activity, sedentary lifestyle, lifestyles, and obesity of the child population between 8 and 16 years of age. This initiative arises from the need to have up-to-date scientific evidence on the reality of the health status of minors.
The study has been carried out through a representative sample and with objective methods. In total, 3,887 minors from 247 educational centres, from the 17 autonomous communities, have participated, which have been evaluated by 13 research groups from all over Spain.
- SantBoiSà is the largest childhood obesity cohort study in Spain. The first study was held in 2015 with 160 boys and girls in Sant Boi de Llobregat (Barcelona). In 2016, the total number of participants increased substantially to 792. And in 2017, a total of 854 boys and girls participated in the study. The continuity in time of the SantBoiSà study allows us to know the evolution of the healthy lifestyle habits and weight status of minors, thus covering a lack of scientific evidence in our environment about the association between healthy lifestyle habits and weight status in this age group. [27,28]

Acknowledgments

The authors wish to acknowledge the inestimable support and help in the collection of data and proofreading by **Aina McFarland** (University of Nottingham, UK).

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3. Lithuanian local report – National healthy eating initiatives

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Abstract. *In recent years, significant positive changes have been observed in the organization of children's nutrition. In Lithuania, a legal framework for better nutrition for children's health has been created. The main national legal acts - the Food Law of the Republic of Lithuania, the Law on Public Health Care, and the Law on Social Support for Pupils - regulate children's nutrition and food safety. There are also strong initiatives by non-governmental organizations.*

3.1 Introduction

The number of overweight and obese adults is growing in the developed and developing world, and the problem remains a major public health challenge worldwide, including Lithuania [1].

According to a study conducted by the Center for Health Education and Disease Prevention in Lithuania, 35.7 percent of the adult population (19–64 years) and 40.7 percent of the elderly population (65–75 years) were overweight, and almost one in five adults and one in three elderly people were obese. [2]. According to a study coordinated by the World Health Organization (WHO) on the Childhood Obesity Surveillance Initiative (COSI), 11 percent of Lithuanian seven-year-olds were overweight, and 5 percent were obese [3]. According to prognoses for the prevalence of obesity in Europe in 2025, Lithuanian men will be among the most obese (in third place, after Ireland and the United Kingdom) [4].

Body weight depends on many genetic, lifestyle, and environmental factors. Modern society is said to live in an environment conducive to the spread of obesity. The globalization of the food system is considered to be one of the leading causes of the obesity epidemic [5]. The food industry provides a large number of processed high-energy products high in fat, sugar, salt and low in dietary fiber, leading to an increase in food intake [6]. Meanwhile, energy is being used less and less. Heavy physical labour has been reduced as many manufacturing processes have been mechanized and automated [7]. Travelling to and from work is becoming more frequent by car. Physical activity increased little during leisure time, as people spend a lot of time in front of the TV or computer [8].

In Lithuania, during the annual compulsory preventive health examination, the family doctor or pediatrician measures the child's height and weight, records the results in the Child Health Certificate, calculates the numerical value of the body mass index (BMI), and marks one of the BMI values in the Child Health Certificate: normal weight, underweight, overweight or obesity. In 2017, 274,227 children were examined for health examinations, 9.2% (25,222) did not have a BMI assessment. In the assessment of children aged 7 to 17 years, whose BMI was assessed by a specialist during a preventive examination (249,005 children), 67.5% of them were normal weight, 15.41% were overweight and 6.18% were obese. Underweight was found in

10.91% of children. When evaluating the results of the 2017 BMI assessment in the groups of girls and boys, no significant differences were observed [9].

In 2000-2002 more than 9000 schoolchildren 7-18 years old were investigated in the 5 biggest towns and surrounding settlements of Lithuania. These data were compared with the 1985 data. The prevalence of overweight and obesity was estimated using the International Obesity Task Force (IOTF) cut-off points. The prevalence of overweight in Lithuanian children and adolescents was higher among younger schoolchildren when compared with older adolescents. Overweight was lower among the older girls when compared with the older boys: 4.60%-11.50%/4.80%-13.62% in the 7-13 years girls/boys, versus 1.50%-6.60%/3.90%-9.50% in the 14-18 years old girls/boys. The prevalence of overweight among younger Lithuanian adolescents did not change significantly in the last 15 years, but it slightly decreased in older boys and demonstrably diminished in older adolescent girls. In general, the prevalence of overweight among Lithuanian adolescents is low when compared with the prevalence of overweight in children from other countries [10].

3.2 Organisation of nutrition for children and adolescents in Lithuania

In recent years, significant positive changes have been observed in the organization of children's nutrition. In Lithuania, a legal framework for better nutrition for children's health has been created. The main national legal acts - the Food Law of the Republic of Lithuania, the Law on Public Health Care, the Law on Social Support for Pupils - regulate children's nutrition and food safety.

In 2011, by order of the Minister of Health of the Republic of Lithuania, the "Description of the Procedure for the Organization of Children's Meals" was approved, a series of recommendations on children's nutrition issues were approved, the Ministry of Agriculture coordinated the "Fruits and vegetables, milk and milk products consumption promotion in children's educational institutions" program, for the implementation of which is provided European Union financial support. Support is also provided for promoting the consumption of organic products and products grown in accordance with national agricultural and food quality systems in educational institutions.

However, regardless of the positive changes, data from an eating habits study in schoolchildren (coordinated by the Institute of Hygiene), conducted in 2016 and 2020, show that only every second Lithuanian schoolchildren had breakfast every day and this situation has not improved in four years. It was also observed that a low intake of vegetables and fruits among this population, and the situation worsened during the study. Only every third students consumed vegetables (32.3%) and fruits (34.7%) daily. The data showed that girls consumed vegetables and fruits more often than boys. In this study, age also influenced the consumption habits of vegetables and fruits - older students consumed fruits less frequently than younger students.

In 2019 - 2020, the data of the "Nutrition habits, actual nutrition and physical activity habits of school-age children" study conducted by the Center for Health Education and Disease Prevention show that, regardless of age, every fifth child consumes unhealthy food every day (one or several times a day) products - potato, corn and other chips, other products cooked in fat, roasted, or popped.

In order to improve children's nutrition in Lithuania, various institutions cooperate, including the Health Affairs Committee of the LR Parliament, the Ministry of Health, the Ministry of Education, Science and Sports, the Ministry of Agriculture, the State Food and Veterinary Service, the Institute of Hygiene, the Center for Health Education and Disease Prevention, the Association of Lithuanian Municipalities, Public health offices of municipalities, educational institutions, the Lithuanian Parents' Forum, the Lithuanian Society of Dietitians, the Association of Dietitians, the Association of Head Chefs and Pastry Chefs, etc.

3.3 Initiatives from the Ministry of Health Care to improve healthy eating behavior and physical activity in children and adolescents

A study on nutrition and physical activity in school-age children was conducted. In this study, the vegetable intake was similar to that of fruit and berries: only two-thirds of all children consume them daily (once and several times a day) and almost a third consume only vegetables and fruits and berries only a few times a week. Although there was a slight decrease in the consumption of sweets, 39.3% of children still consume them daily (once and several times a day) and only one in five eats them very rarely - several times a month. Independently of children's age, one in four children drinks variously carbonated and/or sweet drinks daily (once and several times a day) and only 41.9% consume them infrequently and very infrequently (several times a month) or do not consume them.

To effectively improve the nutrition of children in organized groups, a description of the procedure for organizing child nutrition has been prepared. It stipulates that children must receive only fresh (produced on the same day), high-quality and healthy food while in educational institutions. The supply of fatty, sweet, high-salt, and other low-value and unhealthy foods and beverages to children, including coffee and products containing certain food additives and GMOs, is prohibited. Children were found to receive plenty of fresh vegetables and fruits, whole grain bread, and other healthy foods. When supplying food to children's educational institutions, priority is given to products from organic farms, producers of products of exceptional quality, and products that meet the criteria for the "Keyhole" label. Local observers (public health care specialists or other authorized persons in the educational institution) have been appointed to supervise the implementation of this procedure, as well as external control carried out by the State Food and Veterinary Service.

For children to better understand the meaning and benefits of a healthy diet and lifestyle, the Ministry of Health has helped the Ministry of Education and Science to develop a "General Curriculum for Health Education" in institutions implementing general education programs. It aims to ensure the successful development of children's health at school. Much of this program is devoted to the development of nutrition and a healthy lifestyle.

In coordination with the Ministry of Agriculture, a program to promote the consumption of fruit and vegetables and milk and milk products in children's educational institutions is being implemented in order to form healthy eating habits and improve children's nutrition. During it, fruit and vegetables, their juices, milk, and dairy products are provided free of charge to younger children in educational institutions [11].

3.4 Recommendations of the National Health Council regarding a more health-friendly nutrition system for children in Lithuania

Suggestions and recommendations of the National Health Council for effective and high-quality nutrition of children and adolescents:

- to encourage food producers to change the composition of food products, to produce with less salt, sugar, and saturated fat.
- to expand the number of children receiving free meals in general education institutions. Increase the volume of programs implemented by the Ministry of Agriculture to provide more children and teenagers with fruits and vegetables.
- encourage suppliers, manufacturers, and entities involved in the organization of meals for children and teenagers to create more favourable conditions for the organization of meals for children. Promote the implementation of short food supply chains. To promote the increase in the volume of products grown in accordance with national agricultural and food quality systems. To promote the increase in the production and supply of organic products.

- review and supplement the catalogue of food products supplied to educational institutions, increasing the possibility of purchasing organic products.
- to pay attention to the quality of food products offered to educational institutions, compliance with the norms set by legislation, to control suppliers.
- a proposal to the Ministry of Health, together with the Ministry of Education, Science and Sports, to adjust the Lithuanian hygiene standards "School implementing programs of general education. General health and safety requirements" provisions, which provide for the time and duration of breaks, to ensure the optimal time and duration for meals.
- to regulate who can prepare prospective, daily, and customized menus for children and teenagers. It is recommended that dietitians, specialists with education in the field of nutrition studies do it;
- to adjust the legislation governing the licensing of dietitians, because according to the currently valid legislation, dietitians cannot work in educational institutions and/or public health offices. However, according to the good practices of municipalities, dietitians in educational institutions and public health offices are necessary when performing the functions of food organization or its supervision.
- to assess the impact of fruit and vegetable, milk, and milk product consumption promotion programs on recommended daily nutrient and energy rates for children.
- strive for more effective involvement of the communities of educational institutions, solving issues related to the organization of meals, and increasing the availability and supply of health-friendly nutrition.
- to enable the communities of educational institutions to make decisions regarding the organization of meals and the purchase of food products.
- to enable and provide methodological assistance to the heads of educational institutions, organizing the selection and supervision procedures of suppliers of food products and/or services, ensuring the maximum quality standards of the activities of food products and suppliers.
- regulate responsibilities between sectors. To assess the peculiarities of children's nutrition in municipalities, the challenges of meal organization (infrastructural, personnel, attitude, etc.) and comprehensively solve the issues of meal organization, improving children's eating habits, food waste, implementing the buffet system in municipal educational institutions, regardless of their subordinates. Involve parents, non-governmental organizations, health, education, and other sectors in decision-making processes.
- strive for closer cooperation between educational institutions, their administrations, public health care offices, Food and Veterinary Services in solving non-compliance issues.
- to spread examples of good practice, to carry out education and training of parents, students, and entities involved in the organization of meals in matters of nutrition for children and adolescents.
- to regulate the qualification requirements of persons preparing food in educational institutions, to organize qualification improvement.
- to encourage manufacturers to ensure the maximum quality standards of food products supplied to children and adolescents.
- to ensure compliance of food products supplied to educational institutions with the requirements.
- to encourage growers and producers to supply organic products to education, social care, and other institutions providing meals for children and teenagers.
- to organize competence and qualification improvement of entities participating in the process of feeding children and adolescents.

3.5 Recommendations from Lithuanian public health specialists

Research shows that the eating habits of children and adolescents are not suitable - they consume too many sweets, potatoes, and other chips, and consume too few vegetables and fruits.

For the nutrition of children and adolescents to be healthy and balanced, it is necessary to pay attention to the main principles of healthy nutrition. The three most important principles of a healthy diet are distinguished: moderation, variety, and balance. Together they form a whole system and are very important for a healthy diet.

Public health specialists recommend that children and adolescents:

- Eat vegetables and fruits several times a day, especially fresh ones. It is recommended to consume at least 400 g of fruits and vegetables, excluding potatoes.
- Eat whole grain bread, cereals, and pasta several times a day. They are low in fat and high in other valuable nutrients. In addition to energy, these products provide the body with protein, fiber, minerals (e.g., K, Ca, Mg), and vitamins (C, B6, folic acid, carotenoids).
- Eat lean meat, legumes, fish, and poultry. Legumes, nuts, meat, poultry, and eggs provide proteins and iron to the body of children and adolescents.

Not only animal but also vegetable proteins obtained from leguminous and grain products are valuable.

- Use skimmed milk and skimmed milk products. Milk and milk products are a source of protein and some vitamins and minerals. These products contain a lot of calcium, which is especially useful for children and adolescents of all ages to get with food. Calcium is necessary for the formation and growth of children's bones and teeth.

- Food products with low sugar are recommended; sweet drinks, sweets, and candies should be consumed only rarely and little. Foods that are high in simple carbohydrates (sugar, glucose, fructose, maltose, corn syrup, etc.) usually have very few other valuable nutrients, so they can only be a source of energy. Sugar consumption is considered a risk factor for tooth decay if oral hygiene is poor.

- Eat unsalted food. The total amount of salt in food, including food intake, should not exceed 4-5 grams per day. It is advisable to use only iodized salt.

- Drink a sufficient amount of fluids. It is very important that the body receives a sufficient amount of fluids during the day. We get part of the fluids with food, but to compensate for the lost water, it is necessary to drink about 1.2-2 liters per day, depending on the age of the child/adolescent. The smaller the child, the greater the physiological need for water per kilogram of body weight per day. Children and adolescents are recommended to drink drinking water, mineralized or weakly mineralized natural mineral water [12].

3.6 Non-governmental initiatives

There are also strong initiatives by non-governmental organizations. Representatives of non-governmental organizations organize healthy nutrition and physical activity camps for teenagers, explain the principles of healthy nutrition, and create recipes for healthy nutrition for children and teenagers. Updates the advice on the contents of lunch boxes when the school year starts. We discuss some of the recommendations in more detail later in this subsection.

10 principles of healthy nutrition for children and adolescents

1. The meals of children and adolescents must be regular

According to the established requirements, children and teenagers must eat regularly at least 3 times a day (even better - five). Breakfast and dinner should make up 20-25% of the daily energy value, lunch 30-40%, and intermediate snacks 10-15% each. Children and adolescents must be

fed at least every 3.5 hours, as it is necessary to maintain a constant blood sugar level and conserve energy. Only by maintaining a constant blood sugar level will there be no energy spikes, the child will feel energetic and will not overeat during the next meal.

2. The diet of children and adolescents must be varied

Every day, parents must serve different dishes to their children, but it cannot be, for example, boiled potatoes, fried potatoes, potato plates, and mashed potatoes. It must be different foods. Only in this way will the growing organism's need for all valuable nutrients be ensured.

If we are talking about a side dish or breakfast porridge, there can be different cereal cultures every day: barley groats, buckwheat, unpolished rice, millet groats, corn porridge, etc. Also, different vegetable side dishes from carrots, and beets, not only from potatoes.

A hot lunch should consist of high-protein products (meat, poultry, fish, eggs, legumes, milk, and dairy products) and carbohydrate-rich products. Vegetables or fruits or their salad should be served with a hot meal. For breakfast, the most suitable choice is whole grains, fruits, and berries. For dinner, it is also necessary to consider the proportions of the food on the plate. Vegetables, complete carbohydrates, and protein-rich foods dominate, i.e., legumes, vegetables, cereals, eggs, and dairy products. Complete intermediate snacks are nuts, seeds, cereal products, vegetables, and fruits.

3. The nutrition of children and adolescents must be balanced

In accordance with the recommended nutrient standards for children and adolescents compiled by the Ministry of Health, children and adolescents must receive enough carbohydrates, proteins, fats and vitamins, and minerals.

What is the difference between healthy and unhealthy foods? The amount of carbohydrates, proteins and fats may be the same, but vitamins, minerals and fiber substances, fatty acids are much more in a healthy dish. Carbohydrates in the daily diet should contain 45-60% (of which sugars are no more than 10%), proteins - 10-20%, fats - 25-40% (of which saturated fatty acids up to 10%, and trans isomers of fatty acids should not be present).

Of course, a balanced diet must not contain unhealthy food products, which are prohibited according to the children's nutrition description not only in educational institutions but should also be prohibited at home.

Only a balanced diet ensures a feeling of satiety, meets all the needs of the growing body and the child/adolescent grows up healthy.

4. The diet of children and adolescents should be moderate

Children/teenagers have an innate sense of hunger and moderation. If adults do not force them to eat everything on the plate, children have a good sense of how much food is needed. However, it is much more difficult to feel moderation when eating unhealthy food, which is rich in refined sugar, salt, refined fat, and low in fiber. Many parents have noticed that a bag of gummies containing as much as 90 g of sugar can be eaten by their children in an instant. These are tricks of the food industry. To avoid this, children and adolescents must be given the opportunity to eat only healthy food. Their awareness must be raised. For example, analysing the composition of food products with adults, and explaining why healthier products should be preferred.

Of course, moderation is also necessary when eating healthy foods. For example, if you eat a kilo of apples, you may experience indigestion, flatulence, etc. The need for nutrients depends on the child's age, gender, and physical activity.

5. Food for children and adolescents should contain less salt

When choosing food products, one of the main criteria is the amount of salt. It must not exceed 1 g/100 g of the product. It is estimated that we get about 2-5 g of salt with the products we consume daily (vegetables, fruits, fish, grains). Not only that, but we also consume foods with added salt. For example, eating 100 g of smoked sausage contains about 4-5 g of salt.

The inhabitants of Lithuania consume almost twice as much salt as they need. It is necessary to get used to consuming less salt from an early age, because excess salt is also one of the factors

that is not only unfavourable for health, but also destroy the innate perception of natural taste. It is recommended to take a saltshaker from the table and season food with healthy herbs and spices.

6. Food for children and adolescents should contain less sugar

Meals for children/teenagers should contain no more than 5 g/100 g of added sugar, preferably up to 3 g/100 g. When buying packaged foods, it is advised to avoid those whose labels state that the first ingredient is sugar, and whose nutrition declaration states that the sugar content is greater than 10 g/100 g of the product.

Why is excess added sugar bad and why should it make up no more than 5% of total calories? Eating too many sweets causes the pancreas to produce more insulin, which helps the amino acid tryptophan to enter the brain. In them, the substance mentioned is converted into the so-called happiness hormone serotonin. It raises the mood, but too much serotonin can harm the endocrine system, increase the risk of developing chronic diseases, the immune system becomes unbalanced, and the body does not receive vitamins and minerals with sugar, but only takes them from the body.

When we talk about added sugar, we are not talking about natural sweetness (for example, apple, grape). We are talking about refined, brown, white, and unrefined sugar, as well as honey, maple, fructose syrup, etc. They differ only in the intensity of processing technologies and nutritional value.

For example, refined sugar has nothing but calories: 100 g of sugar is 100 g of carbohydrates, of which 100 g are sugars. Honey contains 80 g of sugar, which means that it can also contain some other valuable nutrients. Freshly squeezed juice is free of sugar. They, unlike fruit, cause blood sugar levels to rise sharply and fall instantly, as the fiber in the juice is usually not present.

The quality of life largely depends on the amount of energy: whether it is constant or constantly changing. Therefore, it is not recommended to drink fresh juice in large quantities. It is recommended to give preference to cocktails made from whole fruits, greens, and vegetables. This provides a bouquet of all valuable nutrients.

7. Food for children and adolescents should contain less fat

According to WHO recommendations, the food of children and adolescents should contain less saturated fat (their sources are fatty meat, fatty dairy products). These substances should be replaced by products containing unsaturated fats (nuts, fish, seeds, cold-pressed unrefined olive oil, rapeseed oil). Trans isomers of fatty acids should be avoided.

Therefore, food for children/adolescents must not contain products with partially hydrogenated or fully hydrogenated fats. Roasted, popped, deep-fried, battered food should be avoided. It has been proven that excessive consumption of unhealthy fats is associated with cardiovascular diseases.

8. Food for children and adolescents should contain more fiber

Children who are just one year old should already receive fiber - 8-12.5 g/ 1000 kcal. Over the years, this number must increase, and in adolescence reach the recommended daily rate for adults - 25-35 g or about 12.5 g/1,000 kcal. Children should get more vegetables, fruits, and cereals. Refined flour products with very little or no fiber should be avoided. It is recommended to replace them with full-fledged cereal crops, because not only fiber materials are obtained, which improve digestion, but also vitamins and minerals.

9. Meals for children and teenagers must be frugal

Food prepared for children and teenagers must be of high quality. It is necessary to try to preserve its nutritional value, not contaminate the food with carcinogenic substances. It is important to give preference to a sustainable production method - cooking food in water, stewing in steam, processing in convection mode or another method that allows for preserving the nutritional value of the product. It is recommended to make stews more often, not to burn or overcook food - this is the only way to preserve valuable substances.

10. Children and adolescents should only drink water

Preference should be given to drinking water (room temperature). Natural mineral and spring water, and other drinks must be non-carbonated. Water can be flavoured with fruits, vegetables, herbs, or their products without added sugar or food additives [13].

Products recommended for children's and teenagers' lunch boxes: fruits, berries, vegetables, flour dishes (pancakes, cupcakes, cakes), sandwiches and tortillas, nuts, and dairy products.

- Fresh fruits and berries: apples, nectarines, peaches, blueberries, bananas, kiwis (sliced and eaten with a spoon), tangerines, and other favourite fresh fruits or berries.

- Dried, freeze-dried fruits and berries: bananas, raspberries, mangoes, raisins, dates, plums, apricots, figs. Give preference to organic dried fruits and berries, without the preservative sulphur dioxide or other food additives, as well as without added sugar.

- Fresh vegetables: tomatoes, cucumbers, crispy carrots, peppers, crisp lettuce leaves, and other vegetables. It can also be steamed broccoli or cauliflower with a pinch of salt and a drizzle of oil.

- Pickled, canned products: olives, which can be marinated with your favorite ingredients, legumes (beans, chickpeas), which can be baked in the oven and served as sweet or salty chips.

- Other products: favourite various nuts or seeds - sunflower, pumpkin seeds, cashews, bertoletia, pine nuts, almonds, roasted unsalted nuts or their mixtures or even nut butter. Also, various dairy products: hard cheese, cheese sticks, cottage cheese, and yogurt. Dishes from dairy products: cottage cheese pie, cottage cheese, cottage cheese cupcakes, etc. [14].

3.7 Conclusions

Overweight and obesity have grown to epidemic proportions, with over 4 million people dying each year as a result of being overweight or obese. Once considered a problem only in high-income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings. In Lithuania, 35.7 percent of the adult population (19–64 years) and 40.7 percent of the elderly population (65–75 years) were overweight, and almost one in five adults and one in three elderly people were obese.

Taking this into account, significant positive changes have been observed in the health organizations of children's nutrition with the development of legal issues to the implementation of healthy eating behaviour in children and adolescents, such as: the Food Law of the Republic of Lithuania, the Law on Public Health Care, the Law on Social Support for Pupils – which regulate children's nutrition and food safety.

Initiatives from the Ministry of Health Care to Improve the quality of diet intake in Children and Adolescents (*based on overall diet composition, appropriate caloric intakes at different ages, macronutrients, micronutrients, portion size, and food choices*) have been prepared and a description of the procedure for organizing child nutrition has been nationally presented. For example, children must receive only fresh and high-quality, and healthy food while in educational institutions. Low-value and unhealthy foods are prohibited. Children were found to receive plenty of fresh vegetables and fruits, whole grain bread, and other healthy foods and local observers have been appointed to supervise/control the implementation of this process. In addition, was developed a “General Curriculum for Health Education” in institutions implementing general education programs, which aims to ensure the successful development of children's health at school (development of nutrition and a healthy lifestyle).

Despite all this effort made by the national and international institutions, the burden of physical inactivity and poor nutrition is still a major public health problem. The prevalence of overweight in Lithuanian children and adolescents did not change significantly in the last 15 years, but it slightly decreased in older boys and demonstrably diminished in older adolescent girls. In general, the prevalence of overweight among Lithuanian adolescents is low when compared with the prevalence of overweight in children from other countries. However, efforts to increase community access to healthy foods, promote efforts to provide fruits and vegetables

in a variety of settings, encourage water consumption in place of sugar-sweetened beverages, as well as, to ensure that publicly run entities such as after-school programs, child care facilities, recreation centres, and local government worksites implement policies and practices to promote healthy foods and beverages and reduce or eliminate the availability of calorie-dense, nutrient-poor foods.

Thus, implementing fiscal policies and local ordinances to discourage the consumption of calorie-dense, nutrient-poor foods, and beverages, in addition, to promoting media and social marketing campaigns on healthy eating and childhood obesity prevention should be a daily task of responsibility of institutions associated with national and municipal public health.

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4. Obesity and eating disorders - Local report from Portugal

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Abstract. *Obesity represents one of the main public health problems worldwide. In Portugal, more than half of the adult population has overweight and obesity reached 1,5 million people aged more than 18 years-old. At the heart of these numbers is an unbalanced lifestyle: inadequate eating habits and physical inactivity. When analyzing childhood obesity, all Portuguese regions showed a decrease in the prevalence of overweight (including obesity), although it's still an alarming situation. It's believed that underlining this positive trend is the increase in food policy and outstanding national programs in recent years. Portugal presents its own food guide: Portuguese Food Wheel and guidelines aimed at improving the nutritional status of the population. In addition to public policies, such as campaigns, label decoder and food product reformulation, there are regional and local initiatives, to promote healthy eating habits and an active lifestyle.*

4.1 Introduction

Global obesity levels have been increasing over the past 4 decades, representing one of the main public health problems worldwide. The disease is related to increased morbidity, mortality, and related costs. In WHO Europe Region one in three school-aged children, one in four adolescents and almost 60% of adult population are facing the challenge of obesity.[1] Weight stigma that people living with obesity face also increases the risk for eating disorders whose real dimension is not so well characterized as obesity. Realities may be diverse between member states. In these chapters we present prevalence data of obesity and eating disorders in Portugal, along with national guidelines to promote healthy eating, some regional and local initiatives to facilitate and incentive healthy eating, and also an initiative related to the adoption of an active lifestyle to prevent obesity.

4.2 Prevalence of obesity and eating disorders in Portugal

Prevalence of adult obesity in Portugal

Obesity and overweight are assessed using the body mass index (BMI), calculated from the ratio between weight and length (kg/m^2). Having individual obesity when the BMI is greater than 30 kg/m^2 , and overweight when BMI is greater than 25 kg/m^2 according to the cutoff points defined by the World Health Organization. [2]

In Portugal, according to the National Health Survey, in 2019 more than half of the adult population (53,6%) is overweight. [3] Obesity, that is, a BMI above 30 kg/m² reached 1,5 million people aged more than 18 years old (16,9%) with women being more affected than men (17,4% vs. 16,4%). The population aged 55 to 74 years old is the most affected, with values above 20%. Comparing the values of the 2019 survey with those of 2014, there is a slight increase in overweight (36.6% vs. 36.4%) and obesity (16.9% vs. 16.4 %). (Fig. 1) [3]

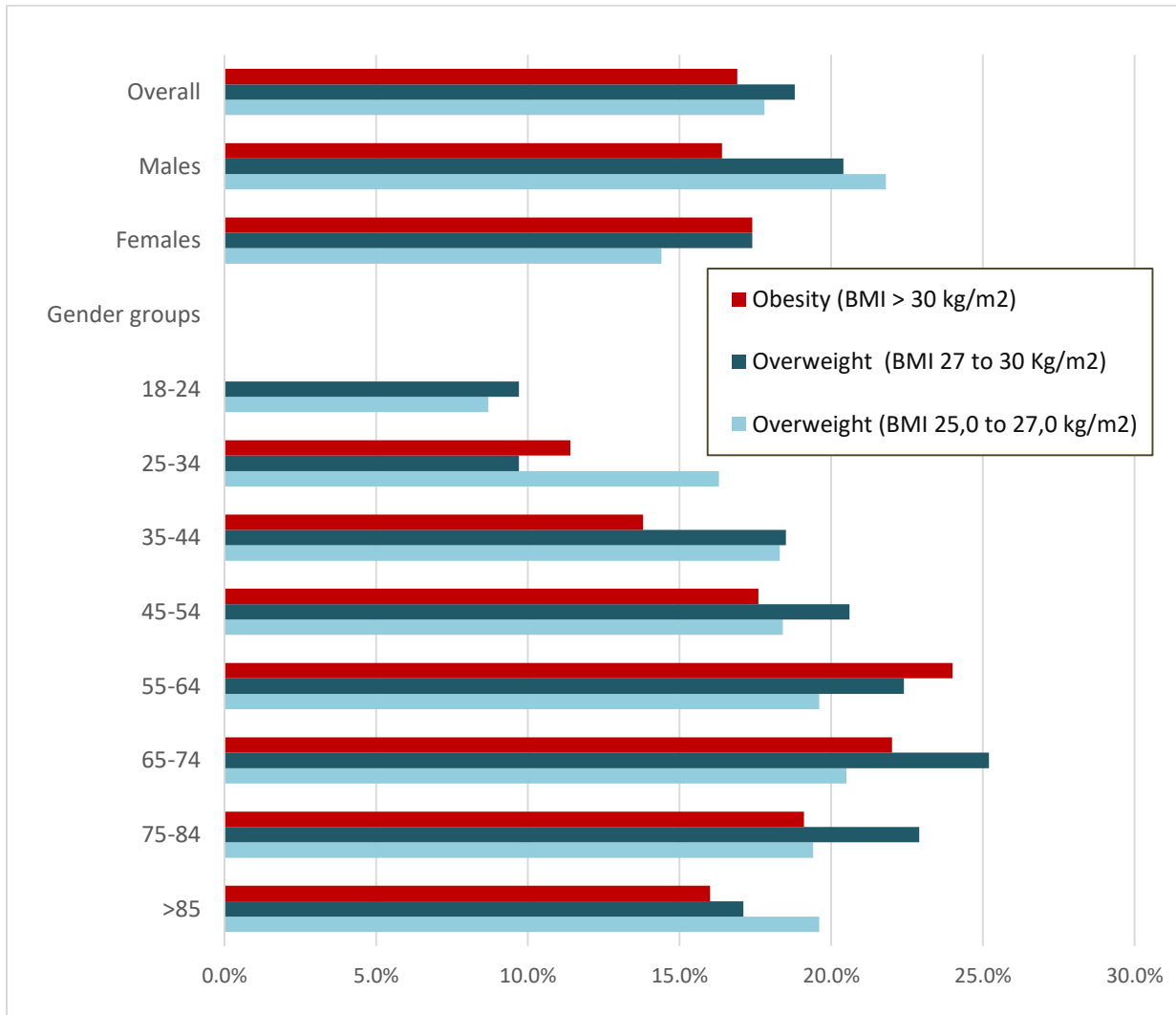


Fig. 1 Proportion of population aged 18-year-old or more, with overweight or obese by gender and age group, Portugal. Adapted from: <https://www.ine.pt/>

In another study, the National Food and Physical Activity Survey (“Inquérito Alimentar Nacional e de Atividade Física -IAN-AF”) for 2015-2016, 57.1% of the population was overweight for their height: 22.3% of the population was obese and 34.8% was overweight. (Fig. 2) [4]

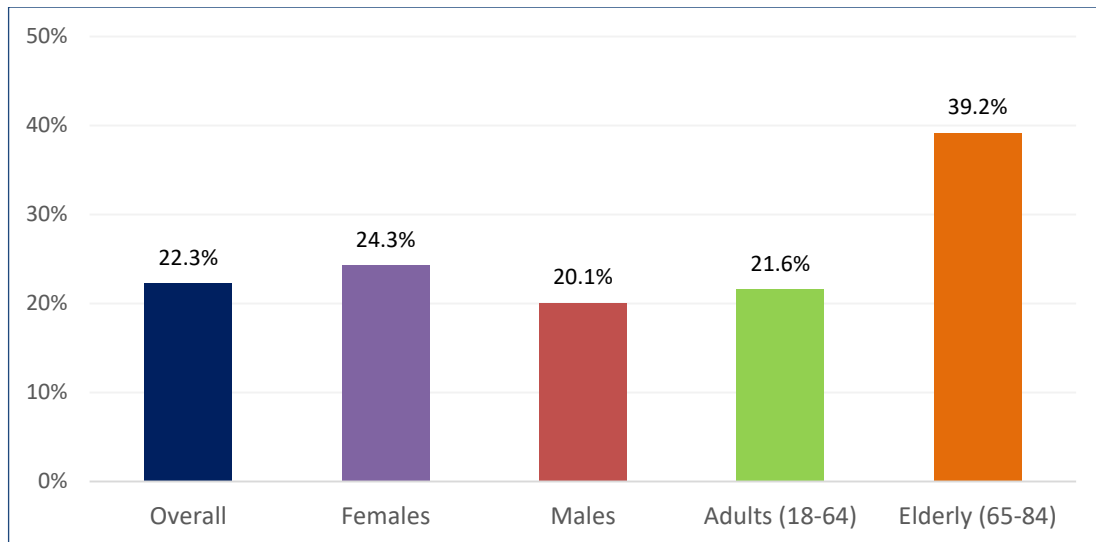


Fig. 2 Prevalence of obesity, by gender and age group, Portugal. Adapted from: <https://ian-af.up.pt/>

In addition to being classified according to overweight, obesity also varies according to the location and distribution of fat throughout the body. Abdominal obesity, that is, the increase in adipose tissue in the abdominal region, presents an increased risk for developing cardiovascular diseases, diabetes, dyslipidemia, and metabolic syndrome. [5] Abdominal obesity can be classified by the waist and hip circumference, according to the cutoff points recommended by the World Health Organization (Waist circumference: ≥ 88 cm in women and > 102 cm in men; waist-hip circumference: $\geq 0,85$ in women and $\geq 0,90$ in men).[6]

In Portugal, the prevalence of abdominal obesity is 50.5% in the adult population, being higher in males compared to females (62.0% vs. 39.2%) and much higher in the elderly (80.2%). (Fig. 3) Standardized prevalence for sex and age is higher in the Autonomous Region of Azores (61.7%) and the Center region (59.8%) and lower in the Lisbon metropolitan area (45.5%) and the North (47.9%). The prevalence of obesity, pre-obesity, and abdominal obesity are always higher in less educated individuals, although in the elderly the disparities by the level of education are lower. [4]

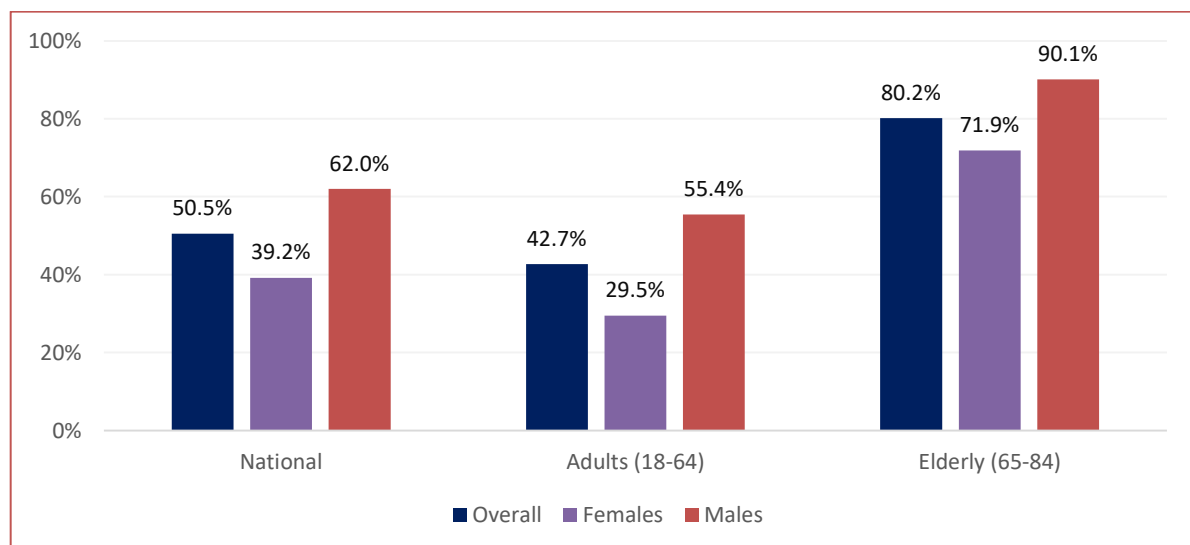


Fig. 3 Prevalence of very increased risk of abdominal obesity (waist-hip circumference ratio), national and by age group, Portugal. Adapted from: <https://ian-af.up.pt/>

At the heart of these numbers is an unbalanced lifestyle. According to the IAN-AF 2015-2016, only 18,0% of the adult Portuguese population has high adherence to the Mediterranean dietary pattern. More than half of the Portuguese population (56%) doesn't comply with the World Health Organization recommendation to consume more than 400g/day of fruit and vegetables. Around 24% of the population ingests fat above the recommended and 53% have a higher than recommended intake of saturated fatty acids. Regarding sugar consumption, 24,4% of the Portuguese consumers get their intake from sweets, soft drinks, natural or concentrated fruit juices, cakes, cookies, biscuits, and cereals breakfast, which contributes to more than 10% of the total energy value. The average sodium intake is 7,4 of salt, a value that exceeds the recommendation of 5g/day. [4]

Regarding physical activity, 43% of Portuguese were considered "sedentary", 30% at the "moderately active" and 27% at the "active" level, based on the International Physical Activity Questionnaire (IPAQ), (7) which considers all domains of daily life and three types of activities – light, moderate and vigorous. (Fig. 4) [4]

Physical activity and diet in combination with behavioral support and treatment of comorbidities are recognized as an integral part of the management of people who has overweight or obesity. [8] Considering the alarming situation in adults, it's important to consider and tackle obesity from childhood, which has happening also in Portugal in the last years.

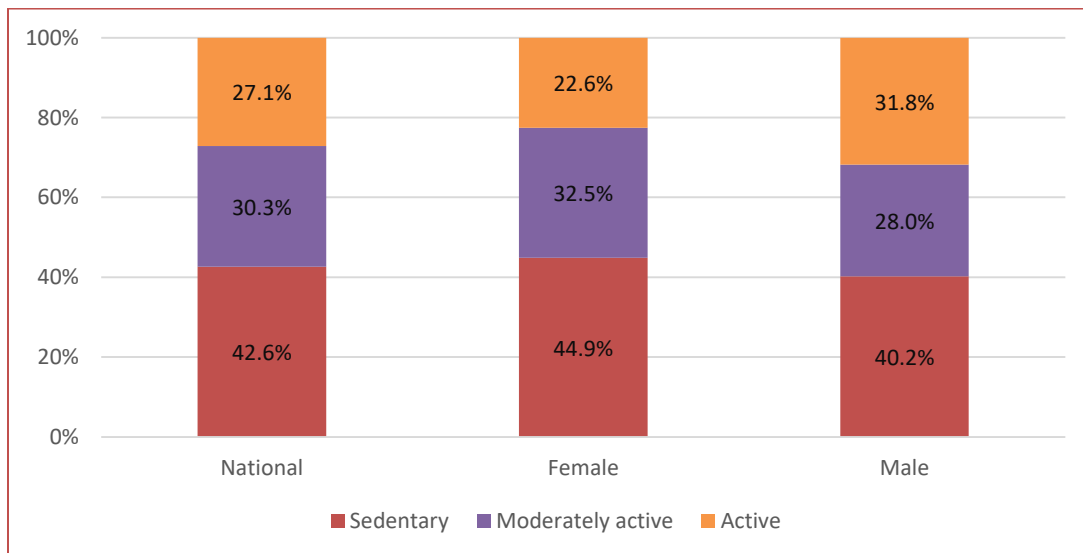


Fig. 4 Prevalence of physical activity levels by gender, Portugal. Adapted from: <https://ian-af.up.pt/>

Prevalence of childhood obesity in Portugal

The WHO's European Childhood Obesity Surveillance Initiative (or COSI) has measured trends in overweight and obesity among primary school-age children (6 to 8 years) for over 10 years. It was a collaborative effort between WHO and research institutions from many European countries to collect high quality data on the prevalence of childhood overweight and obesity. [9]

In the most recent COSI Portugal report (2019), 11.9% of children aged 6-8 years has obesity and 29.7% has overweight. (Fig. 5) Although it is still an alarming situation that 1 in 3 children is overweight or obese, the data show a reduction of percentage points in the prevalence of overweight children since 2008, where Portugal was the second European country with the highest prevalence of children with obesity or overweight. [9]

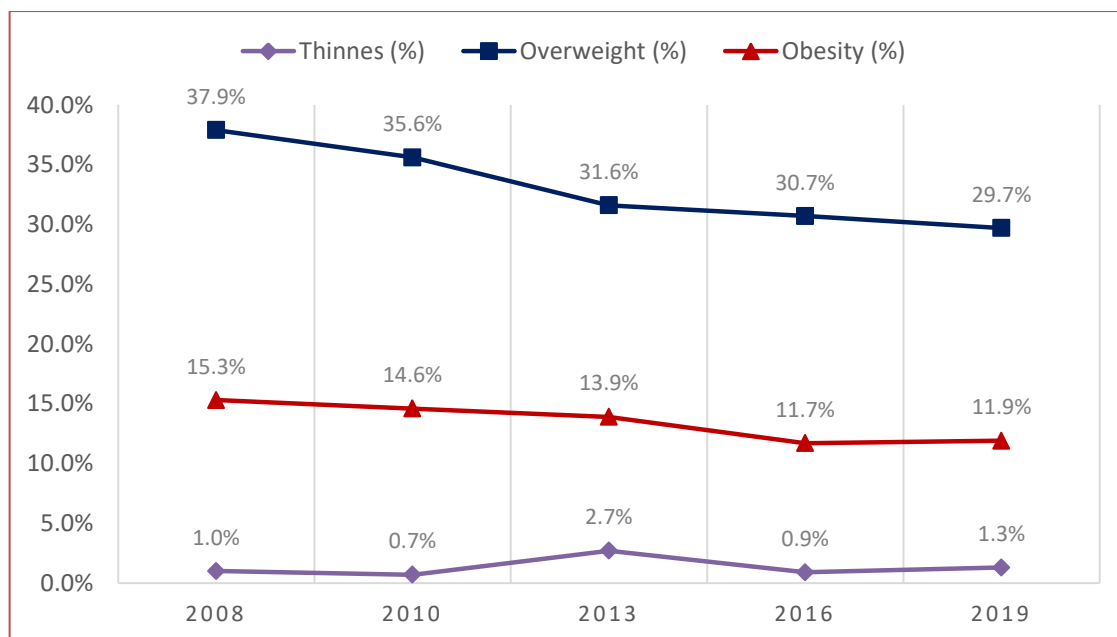


Fig. 5 Prevalence of childhood (6-8 years old) thinness, overweight (including obesity), and obesity in the different phases of COSI Portugal (2008 to 2016). Adapted from: <https://www.ceidss.com/wp-content/uploads/2020/03/COSI-2019-FactSheet.pdf>

All Portuguese regions showed a decrease in the prevalence of overweight (including obesity), and this decrease was more pronounced in the Azores and Centro regions. [9] It is believed that underlining this positive trend is the increase in food policy and outstanding national programs in recent years.

Data from a national survey of the Portuguese population show that 17,3 % of children (<10 years old) and 23.6% of adolescents (10-17 years old) have already overweight (assessment criteria accordingly with growth curves of BMI-for-age from WH) and 7,7 children's and 8.7% teenagers have corresponding criteria for obesity. The prevalence of overweight is higher in less educated individuals. [4]

Associated costs

In Portugal, obesity represents an annual direct course of 1.2 billion euros, an amount equivalent to 0.6% of the wealth produced in the country. [10] According to the most recent data from the Organization for Economic Co-operation and Development (OECD), the costs associated with the treatment of overweight and associated diseases represent 10% of total health expenditure (equivalent to €207 per capita per year).[11]

The obesity-related diseases that most contribute to the highest direct health costs are chronic non-communicable diseases such as diabetes, stroke, ischemic heart disease, and chronic kidney disease. The researchers also point out that the cost of treating these diseases is 88 times higher than the cost of treating obesity. This research also mentions that in 2018, there were 46,269 deaths from obesity-related diseases, which represents 43% of the total deaths that occurred in mainland Portugal that year. [10,11]

It is necessary to reinforce the need for a greater focus on prevention, to strengthen the intervention of primary health care on a multidisciplinary approach, on equitable access to adequate surgical and/or pharmacological treatment, and zero tolerance for the discrimination that people who live with obesity are still victims of.

Eating disorders

Eating disorders (ED) include anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED), as well as several conditions listed under "Other Specified Feeding and Eating Disorders (OSFED)" in the fifth edition of the Diagnostic Manual and Statistics of Mental Disorders. [12]

ED is frequent in women, in the higher social classes of industrialized countries. The maximum age of onset of disorders is 19 to 20 years in AN and 16 to 20 in BN. [13] In Portugal, data on the prevalence of eating disorders are scarce or made in small communities. In a retrospective observational study [13] evaluated all episodes of hospitalization from 2000 to 2014 with a primary or secondary diagnosis of ED in Portugal. There was a total of 4485 hospitalizations, where AN was the most frequent (n = 2806). Hospitalizations for attempted suicide were more common among patients with BN (10,1% of hospitalizations for BN) or AN (5,2% of hospitalizations for AN).

Another survey [14] carried out with female students between 12 and 23 years old showed a prevalence of eating disorders of 3.06%. The prevalence of anorexia nervosa was 0,39%, bulimia nervosa 0,30%, and of other specified feeding and eating disorders 2,37%. OSFED accounted for 77.4% of all diagnosed cases of eating disorders in the community, compared to only 13% for AN and 10% for BN. The findings support previous research in clinical settings showing that most individuals seeking help do not have AN or BN according to current diagnostic criteria. In a more recent study, [15] carried out with adolescents between 12 and 18 years old, in the Municipality of Manteigas, found a prevalence of 0,96% of NA and 3,85% of BN, in which the prevalence was self-reported, through the feeding Questionnaire of Disorder Examination - EDE-Q.

The most effective risk predictors were female sex, the interiorization of sociocultural ideals of beauty, and the bonding relationship with the mother. In this way, prevention programs focused on the promotion of a healthy relationship with food and a positive body image, and in the main contexts of adolescents' socialization (school and family) should be set from an early age.

4.3 Guidelines and standards

Food guide for the Portuguese population

In the late 1970s, an institutional task force was created to identify the main health and food-related problems affecting the Portuguese population. In this scene, the "*knowing how to eat is knowing how to live*" campaign, which included the Food Wheel Guide (Fig. 6) was implemented. [16] A Portuguese Food Wheel is a graphic representation that helps you choose the foods that should be part of your daily diet. [17]

The food wheel it's a symbol in a circle-shaped, which is divided into five segments of different sizes, suggesting a recommended proportion between the groups, but without specifying a quantity. The format is associated with the dish commonly used, and, unlike the pyramid, it doesn't hierarchize foods, but gives them equal importance. [17,18]

Sociodemographic and economic changes, with differences in the availability and distribution of food, led to the restructuring of the guide, resulting in a New Food Guide for the Portuguese, that included recommended food portions. [18]

In the New Food Wheel Guide, seven food groups were included. Vegetables and fruits were separated into distinct groups, by their differences in energy and nutrient contents and their diversified use in meals. A new group was added just for legumes, given the importance of Portuguese eating habits and reducing animal protein consumption. The standard food portion, the equivalent portions, and the number of daily portions in each food group were defined. The objective of this new wheel is to lead to a healthier diet: complete, balanced, and varied. [18,19]



Fig. 6 A) Previous Portuguese Food Guide. Source: [https://www.jneb.org/article/S1499-4046\(06\)00030-3/fulltext](https://www.jneb.org/article/S1499-4046(06)00030-3/fulltext) B) New Portuguese Food Guide. Source: <https://alimentacaosaudavel.dgs.pt/roda-dos-alimentos/>

In 2016, as Portugal is a country with Mediterranean characteristics, an adaption of the Food Wheel to the concepts of the Mediterranean Diet was developed. [20] The guide is presented in an interactive version, where it's possible to explore the various food groups, available at: <https://alimentacaosaudavel.dgs.pt/roda-dos-alimentos-mediterranica/>.

The adaptation allows an approximation of the Portuguese food guide to the principle of the Mediterranean diet, which enriched the guide and strengthened this food education tool.

Nutrition guidelines

In addition to the food recommendations exposed in the Food Wheel, there are guidelines aimed at specific approaches, particularities according to individual life stages and nutritional diseases.

The *Brief Counseling Manual for Healthy Eating in Primary Health Care* (“Manual Aconselhamento Breve para a Alimentação Saudável nos Cuidados de Saúde Primária”) [21] and the respective support tools: *Guide with 10 steps to healthy eating* (“Guia com os 10 passos para uma alimentação saudável”) [22] help to standardize the clinical approach and systematize food recommendations, optimizing the appointment time.

In the context of implementing measures that promote healthy eating, namely relational measures to create healthy eating environments, the importance of adequate nutrition in the early years of life and in the school, environment stands out: *Healthy Eating from 0 to 6 years old* (“Alimentação Saudável dos 0 aos 6 anos”) [23], *Food and Nutrition in Pregnancy* (“Alimentação e Nutrição na Gravidez”) [24], *Adequate Hydration in School Environment* (“Hidratação adequada em Meio Escolar”) [25], *Guidelines for School Buffets* (“Orientações para Bufetes Escolares”) [26].

Regarding changing eating behavior, this is a complex process that requires the use of an intervention that facilitates behavioral change.

Obesity: optimization of the therapeutic approach in the national health service (“Obesidade: Otimização da abordagem terapêutica no Serviço Nacional de Saúde”) comes to contextualize the best nutritional therapy strategies for obesity, based on the most recent scientific evidence, and on the specificities: energy density, meal patterns, intake speed, and physical activity, for obesity treatment. [27]

About eating disorder, Portugal doesn't present specific guidelines, following international recommendations. The American Dietetic Association guidelines for the treatment of patients with eating disorders postulate a nutritional rehabilitation program, as well as medical and psychiatric follow-up. [28]

4.4 National and local initiatives to promote health

National initiatives for healthy eating

Public policies have the potential to improve the population's diet by altering the food environment and are more likely to result in changes, as they interfere with physical and economic availability. [29] The importance of the development of public policies in Portugal gained prominence in 2012, with the creation of the National Program for the Promotion of Healthy Eating (“Programa Nacional de Promoção da Alimentação Saudável” - PNPAS). It is one of the priority health programs of the National Health Plan of the Directorate-General of Health and aims to promote the health status of the population, acting on one of its determinants: food. [30]

The Directorate-General of Health also coordinates the Integrated Strategy for the Promotion of Healthy Eating (“Estratégias Integradas de Promoção da Alimentação Saudável” - EIPAS), which includes a set of intervention measures through healthy policies. [31] According to the Healthy Food Environment Policy Index (FOOD-EPI), a tool developed to assess the degree of implementation of public policies with an impact on the food environment, Portugal is one of the countries with the best scores. Portugal obtained in 77% of the indicators included in this analysis a moderate or high degree of implementation (56% moderate and 21% high degree of implementation). Food and nutrition policies are internationally recognized for their comprehensive approach, including measures that promote the reformulation of products and food labels, and measures to regulate food advertising aimed at children and the food supply in different public spaces. [29]

Campaigns

Through educational campaigns, the National Program for the Promotion of Healthy Eating works to change the food choices of the Portuguese.

The latest campaign *Eating better, a recipe for life* (“Comer melhor, uma receita para a vida”) aims to add value to some foods that are still undervalued, appreciated, and consumed in the diet of Portuguese, such as fruits, vegetables, legumes, and water. (Fig. 7)



Fig. 7 A) Poster “Eating better, a recipe for life”. B) Poster “Water, the mega drink”. Source: <https://alimentacaosaudavel.dgs.pt/>

In previous years, other campaigns have emerged with a focus on water consumption: *Water, the mega drink* (“Água, a mega bebida), and on reducing the consumption of salt: *Together against salt* (“Juntos contra o sal”) and sugar: *Sugar hidden in food* (“Açúcar Escondido dos Alimentos”). The disclosures are made through digital media, in which messages and incentive posters are published, and in television advertisements, with the presence of several public figures. On the website, you can find the campaigns, videos, and posters: <https://alimentacaosaudavel.dgs.pt/pnpas/modificacao-da-procura-educacao/campanhas-sobre-alimentacao-saudavel/>

Labels decoder

Regulation (EU) no. 1169/2011 relative to the provision of information to consumers on foodstuffs establishes the new requirements for food labeling, thus ensuring that citizens receive clearer, more complete, and accurate information about the content of food. [32]

The front-of-pack (FOP) labeling has the function of guiding the consumer to the constituents of food, thus promoting healthier food choices. [33] However, this doesn't mean that consumers are using it as a tool in choosing the items that should compose their diet. Scientific evidence demonstrates that 40% of Portuguese don't understand the current nutritional information on food product labels and the need to simplify this information. [34]

To help consumers, voluntary nutrition labeling models have emerged. The Federation of Portuguese Agro-Food Industries and some retail brands present a nutritional information model in 2002, with voluntary implementation adopted by some retail brands, namely Pingo Doce. Another model of voluntary nutrition labeling used in Portugal is the nutritional traffic light, initially developed by the Food Standards Agency in the United Kingdom. It was introduced in Portugal in 2009 and adopted by the Continente brand for its products. [35]

Another summary interpretative model that has gained importance is the Nutri-Score. It consists of a colorful graphic representation, which also uses letters, and classifies the nutritional profile of a food product into five categories, between green (letter A) and red (letter E). [36] (Fig. 8)


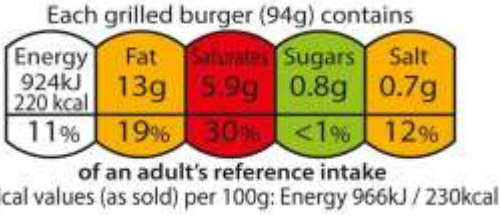

<p>Federation of Portuguese Agro-Food Industries model</p>	
<p>Traffic Light</p>	
<p>Nutri-Score</p>	

Fig. 8 Different FOOD Labelling Systems

Portugal was one of six European countries with the most food labeling schemes, however, the variety of nutrition labeling can cause difficulties for consumers, who would prefer a single scheme. [37] To solve this problem, one of the strategic axes in the National Program for Promotion of Healthy Eating in Portugal was the Label Decoder. [38] (Fig. 9) helps consumers interpret food labels and categorize their total fat (“gordura”), saturated fat (“gordura saturada”), sugars (“açúcares”), and salt (“sal”) content in high, medium, or low.



Fig. 9 Portuguese Label Decoder. Source: <https://alimentacaosaudavel.dgs.pt/descodificador-de-rotulos/>

However, there is an exhaustive need to enact legislation for the standardization of nutritional information on FOP labels. Standard criteria should be created by the Government, with a national recommended scheme.

The Nutri-Score, developed by the French Ministry of Health and defined as the national reference, and adopted in some other countries such as Belgium and Spain, demonstrates a significantly improved consumer's ability to better understand nutritional information and make food choices, compared to other models. Nutri-score also counts with the strong support of the European consumer's association. [39]

The use of simplified nutrition labeling models increases the transparency about the food we eat and could help to make diets healthier, both by helping individuals to make informed choices and by incentivizing producers to reformulate existing products and develop healthier alternatives. [33]

Food reformulation

Improving the nutritional composition of available foods is part of the national food and nutrition strategy developed by the National Program for the Promotion of Healthy Eating (“PNPAS”) and the Integrated Strategy for the Promotion of Healthy Eating (“EIPAS”). For the reformulation of the levels of salt, sugar, and trans fatty acids in different categories of food products, a collaboration protocol was signed in 2018 between the Directorate-General for Health, the National Institute of Health Doctor Ricardo Jorge, the Portuguese Association of Distribution Companies, the Federation of Portuguese Agro-Food Industries and NielsenIQ. [40]

In 2016, a protocol was signed to limit the net weight of individual sugar doses to a maximum of 5/6 g. And in 2018, the grammage of packages was reduced to 4g. With this work started in 2016, the reduction of the net weight of sugar packets by almost 50% has been encouraged. Regarding salt, in 2017, a protocol was established to promote the reduction of salt content in bread. Annual targets were set to reduce the salt content in bread, with the final target for 2021 being 1.0g of salt per 100g of bread. The collaboration protocol also defined limits for the content of trans fatty acids in pastry products, as this is one of the food categories with the highest levels of trans fatty acids. Promoting the reduction of the content of trans fatty acids in products from the bakery and pastry sector to values below 2g and 1g of trans fatty acids per 100g of fat used in the preparation of these products. [40]

The collaboration between entities made it possible to reduce more than 25 tons of salt and 6256 tons of sugar, between 2018 and 2020.

Regional initiatives for healthy eating

The health system in Portugal is organized by 5 main health administrative regions (“Administração regional de saúde” –ARS). Portugal has also two Autonomous Administrative Regions: Madeira and Açores with their obesity realities and programs to tackle them.

Focusing on the Health system of the mainland, this is organized according to the five main regions of Portugal: North, Center, Lisbon and Tejo Valley, Alentejo, and Algarve. Since the implementation of the National Program for the Promotion of Healthy Eating, all regions have been adopting some national initiatives - or even international ones, as we mentioned in the COSI example – and regional entities have been launching their initiatives through time.

In Table 1 we can see some of the initiatives taken at the regional or local level related to healthy eating and the fight against obesity.

Table 1. Regional Administration of Health and its regional programs related to healthy eating or tackling obesity

Health Administration Regions	Intervention Programs
ARS Norte	“PASSE – Programa Alimentação Saudável em Saúde Escolar” (Healthy Eating Program in Scholar Health)
ARS Centro	“Pão.come” (Bread eat); “Aquarela Alimentar” (Food Watercolor)
ARS Lisboa e Vale do Tejo	No specific program
ARS Alentejo	“A minha lancheira” (My lunchbox); “Lancheira Sorriso em Movimento” (Smile Lunchbox on the move); “Crescer com peso saudável” (grow up to a healthy weight); “5 ao dia, faz crescer com energia” (5 a day, makes it grow with energy); “Da caneta até ao prato” (From pen to plate); “Sopas e Aromas” (Soups and aromas)
ARS Algarve	MEDITA – Project to fight childhood obesity on Algarve region “Jogo Ludus Med” app

The PASSE program is a good example of an intervention program that exists since 2008. At least 63% of the schools from North region has adopted this program. More than 380.326 alumnus, aggregated in 18.787 classes benefited from direct intervention of the program. Acquisition of healthy eating habits and food behavior changes are central targets for future generations. In order to involve all the actors, this program addresses also parents and food manipulators more information can be found in the website, including some resources for those who want to use some of the PASSE tools: (<https://passe.com.pt/destaques>)

ARS Centro developed some projects and strategies in food, to intervene in chronic diseases and their determinants: healthy eating, promotion of physical activity and diabetes. In

this context, there are projects such as: “Pão.com”[41], where 10,595 analyzes of analytical monitoring of the salt added to bread in 900 bakeries in the region were evaluated, and the “Food Watercolor” [42] project, to improve the knowledge of health professionals in nutrition.

The ARS Lisboa e Vale do Tejo has health programs but no specific information on its website about dietary interventions or promotion of healthy eating programs. In contrast, ARS Alentejo have several examples of regional/local programs that have been implemented in the last years, either to tackle the snacks that children and adolescents bring from home to eat at school, with several projects related to their lunchboxes, or to address what is offered to them in their school canteens. [43]

The Algarve Region participated in the COSI initiative and recently with the MEDITA project has also launched an app to promote the nutritional literacy about Mediterranean Diet. The MEDITA project is a European Commission financed project aiming at promoting healthy eating habits in the region of Algarve in Portugal, and Andaluzia in Spain. The Project includes the diagnosis of eating habits of children and adolescents of the region and includes scholar interventions to improve them. The goal is improving dietary patterns, improve nutritional status and of children and prevent obesity. [44] The app is one of the examples of a material created by the project which is available to everyone on Google Play, available in: https://play.google.com/store/apps/details?id=com.magiklabs.g_ludusmed&hl=en&gl=US.

Using gamification in the promotion of healthy eating knowledge a space of freedom to fail and to learn around nutrition is possible without any kind of judgement.



Fig. 10 App created by ARS Algarve regarding the project MEDITA –Mediterranean Diet Promoting Health

Associations

There are also good examples of associations created to promote healthy eating in Portugal. The association “Vitamimos” was created as a healthy eating center and was recognized nationally and internationally with several prizes including the *Best Youth Nutrition Education Centre & Innovation Award for Obesity Prevention Initiatives 2019*, on the category of Fitness and Nutrition Awards and a recognition by Global Health and Pharma. [45]



Fig. 10 A) Poster of the activity “eco-chef”. B) Image representative of the education center. Source: <https://www.vitamimos.pt/>

Another important association in Portugal is ADEXO – Association of patients or ex-patients with obesity from Portugal (<https://www.adexo.pt/>). This association has an active role in helping its members to have access to treatment and insurance and to fight against the discrimination they face. Besides support members at several levels, it also works in the prevention area, namely at children and youth. Adexo’s most recent awareness campaign includes a song in collaboration with a famous Portuguese singer “Ana Bacalhau” which is called “eu vou” meaning “I’m going”. This Portuguese song intends to incentive action, in this case, the action of seeking professional help and advice, not listening to external pressures but in a deliberate active action of having control of their lives and searching for their own wellbeing: (<https://www.truthaboutweight.global/pt/pt/mude-o-ritmo-da-sua-vida.html>).

Active lifestyle initiatives

Physical activity improves cognitive function, self-regulation, and positive affect, as well as self-esteem, self-perception, and overall quality of life. The positive effect of physical activity shows a improving of eating behavior and self-regulation. [8]

In combination with diet, behavioral support, and treatment of comorbidities, physical activity is recognized as an integral part of the management of people with overweight or obesity. [4] To combats and overcome this global problem: obesity, initiatives and projects that encourage the practice of sports are adopted.

At the national level, the *National Program for the Promotion of Physical Activity* (“Programa Nacional para a Promoção da Atividade Física” – PNPAF) was created in 2016 (Order nº 6401/2016), constituting one of the Priority Health Programs. It works in harmony with the National Health Plan and with the main international guidelines in the area, namely the World Health Organization. [46]

The largest public campaign to promote physical activity implemented in Portugal was *Follow the whistle – physical activity calls for itself* (“Siga o assobio – a atividade fisica chama por si”), which aimed to improve activities and increase readiness to practice physical activities, having as a group target the Portuguese population aged 35 to 65 years. The main campaign information can be viewed at: <https://www.sigaoassobio.pt/pt>.

At schools, besides the regular classes of Physical Educations which usually happen twice a week, schools may also offer the opportunity to integrate *School Sports* (“desporto escolar”). School sports is a program that comprises 44 different modalities and encourages the practice of sport playfully and recreationally, thus promoting healthy habits in young people and fighting obesity in children and young people. [47] Some municipalities also offer programs that take

place during school holidays called *Sports holidays*. (48) During the summer, young people enrolled in the program have access to different holidays with recreational and sports activities.

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5. Local report – Romania

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Abstract. *Obesity is a major global health problem. According to EUROSTAT, in 2019, 0.8% of Romania's population was underweight, 40.6% had normal weight to height, and 10.9% of the population was diagnosed with obesity. World Obesity Federation reports for 2019 showed that 47.7% of the adult population (+18 years) had a slight excess weight (overweight). Romania has developed over time a multitude of national and local programs to prevent obesity and raise awareness of the problem like: The Roll and Milk Program, School Fruit Scheme or The hot meal program. Although Romania has a large number of local and national projects focused on obesity prevention, health education, and life quality increase, according to statistics, the incidence of obesity is still increasing in all age groups.*

Obesity is a major global health problem. This is the reason why a large number of international strategies are focused on slowing down the evolution of this pathology and increasing the quality of life.

Eating disorders can affect individuals of different age groups, but the average age of onset is in adolescence while the frequency, at the same age, is also increasing. The negative stigma of obesity causes adolescents to adopt wrong behavioral attitudes, which can turn into malnutrition or nutritional disorders in order to be accepted into groups of friends. This is one of the main reasons why they need social, informational, and medical support.

To this purpose, in Romania, national programs and large-scale international or local projects have started in recent years, by engaging experts and specialists in various fields (doctors of various specializations, nurses, dietitians, physiotherapists, teachers, sports coaches, psychologists, pharmacists, food industry experts, professional or interdisciplinary nutrition associations, chefs, media), for educational, community intervention, and behavioral therapy purposes, in the context of lifestyle medicine.

5.1 Prevalence

According to EUROSTAT, in 2019, 0.8% of Romania's population was underweight, 40.6% had normal weight to height, and 10.9% of the population was diagnosed with obesity. [1] World Obesity Federation reports for 2019 showed that 47.7% of the adult population (+18 years) had a slight excess weight (overweight). Regarding the distribution by sex, there is a higher incidence in males for overweight: 55.9% and 11.1% for obesity, respectively. Females are less affected by overweight (40.1%) than males, with almost the same percentage of obesity (10.8%). [2,3]

The prevalence of eating disorders is not well represented in statistics, varying around 0.8% (for bulimia) and 1.2% for anorexia, with large variations by country. In Romania, the indicative figures are 0.6-0.9%, with the mention that in reality, the preponderance can be much higher. Obesity, stress, puberty, and psycho-emotional trauma are the main influencing factors. [4.5]

In 2017, following anthropometric assessments, 52.5% of the adult population was diagnosed as overweight and 10.4% as obese. No less than 59.2% of the male population was overweight and 10.4% were obese. In the case of females, 46.3% were included in the

overweight category, while 10.4% were in the obesity category, without knowing exactly the type of obesity or the Body Mass Index (BMI) value. These categories were made according to international standards for all reporting years, thus including the category of overweight adults with a BMI between 25 and 29.9 kg / m², and the obesity category for those with a BMI greater than 30 kg / m². [3]

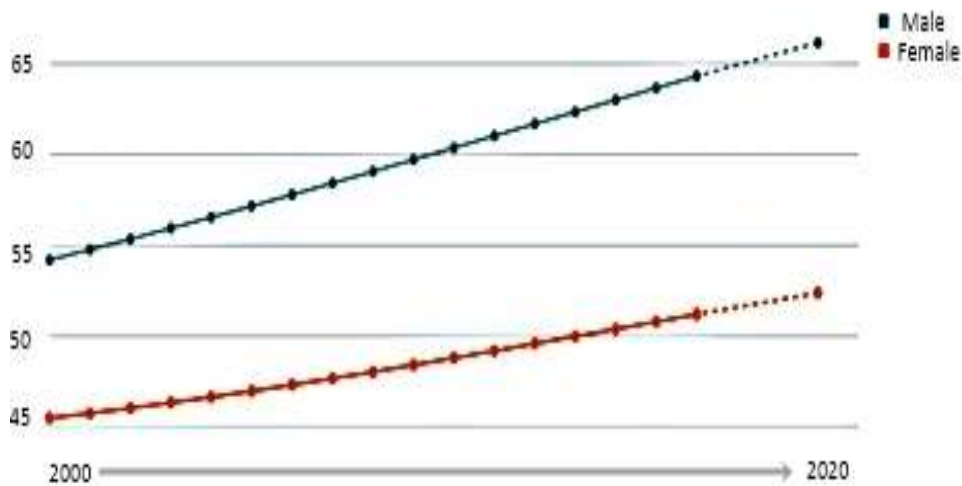


Fig.1 Prevalence of overweight in the adult population [4]

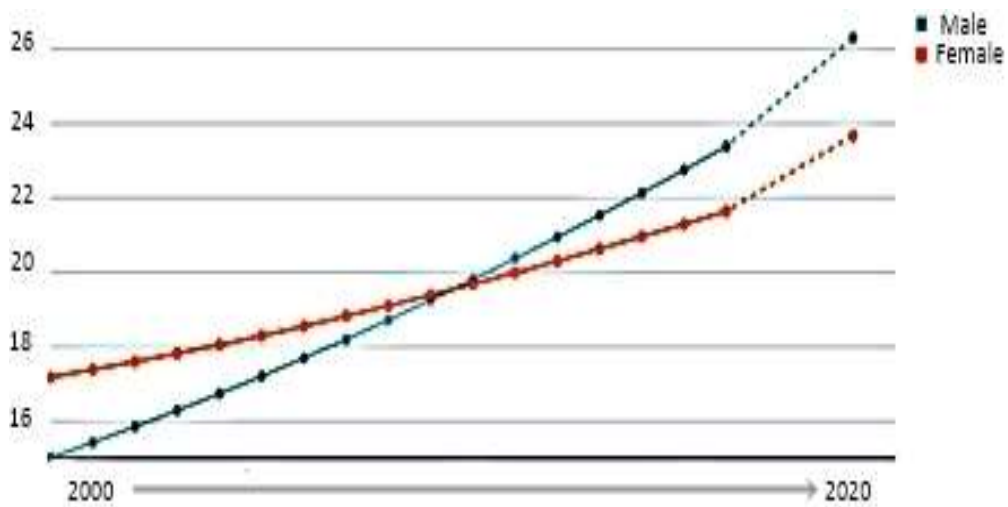


Fig.2 Prevalence of obesity in the adult population [4]

According to current data, it is estimated that without appropriate interventions, the incidence of obesity in the adult population will reach 28.9%. [7]

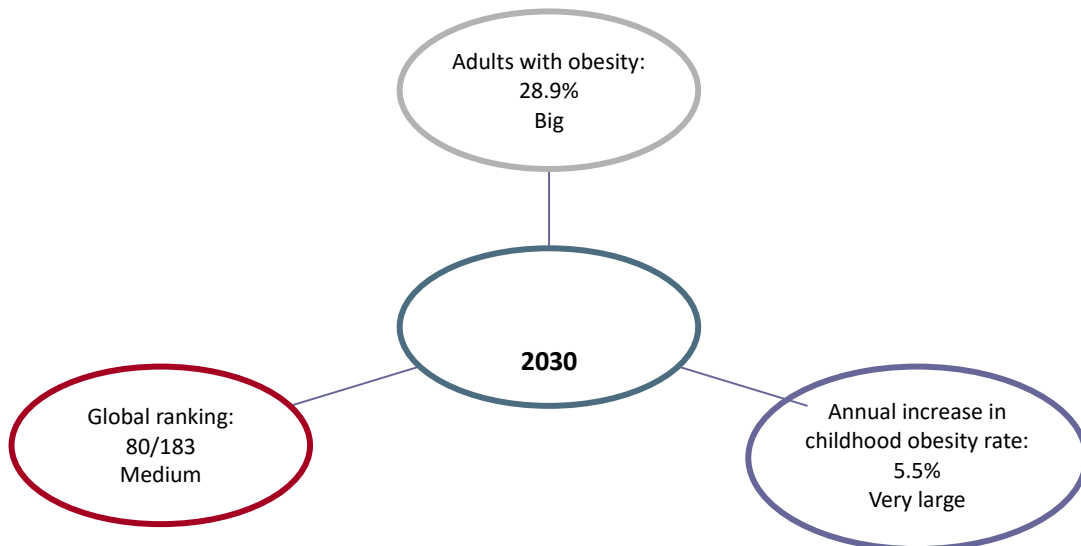


Fig.3 Estimates for 2030 [7]

Estimations for males show a significant increase in the number of patients (31.46%) diagnosed with grade I obesity (BMI ≥ 30), the equivalent of over 2 million people. Grade II (BMI ≥ 35) and grade III (BMI ≥ 40) obesity reach up to 10%. Estimates for females show a lower incidence of grade I obesity, reaching a percentage of 26.46%, the equivalent of over 2 million people. Regarding grade II obesity, there is a slight percentage increase compared to males, reaching a percentage of 9.45%. Morbid / grade III obesity retains values between 2 and 3% for each sex. [7]

Table 1. Estimates for 2030 of gender evolution [5]

	Female gender	Male gender
BMI≥ 30	26.46%	31.46%
BMI≥ 35	9.45%	7.93%
BMI≥ 40	2.71%	2.04%

Estimates for 2030 show that in children, there will be an increase in the incidence of obesity to 20.06% (5-9 years) and 14.3% (10-19 years), respectively. [7]

Table 2. Estimates for 2030 of the prevalence of obesity [7]

Country included in the category	Prevalence%
<i>Turkey</i>	19%
<i>Croatia</i>	
<i>Hungary</i>	
<i>Greece</i>	18%
<i>Serbia</i>	
<i>Bulgaria</i>	
<i>Slovenia</i>	17%
<i>Northern Macedonia</i>	
Romania	16%

Thus, in the period 2010-2030, the annual increase for adult obesity is 1.7%, while for children the changes are important, with values of up to 5.5%. According to these reported data,

31.1% of deaths are due to non-communicable diseases, and pathologies that include obesity for all age groups. [7]

The Institute for Health Metrics and Evaluation together with the World Obesity Federation ranked Romania in 2020 in the top of the 10 European countries in which the BMI significantly influenced the years of life adjusted according to disability (DALY) and the death rate. Romania is positioned in this evaluation along with Bulgaria, Ukraine, Serbia, Hungary, Belarus, Latvia, Georgia, and Northern Macedonia. Also, in the estimates for the evolution of childhood obesity, Romania is at the top of the 10 European countries with the biggest problems, along with Slovenia, Albania, Serbia, Bulgaria, Turkey, Hungary, Croatia, Greece, and others. [7]

Table 3. Significant influence of BMI on disability-adjusted life years [5]

Country included in the category	Influence
<i>Bulgaria</i>	7.97
<i>Ukraine</i>	6.58
<i>Northern Macedonia</i>	5.91
<i>Georgia</i>	5.78
<i>Serbia</i>	5.58
<i>Montenegro</i>	5.4
<i>Hungary</i>	5.35
Romania	5.35
<i>Latvia</i>	5.26
<i>Belarus</i>	5.07

In terms of approach and intervention in obesity, Romania is among the least prepared countries, with an overall ranking of 80%, along with Azerbaijan, Uzbekistan, Turkmenistan, Tajikistan, Ukraine, the Republic of Moldova, and Georgia. [7]

Table 4. Overall ranking for the approach and intervention in obesity [7]

Country included in the category	Global ranking
<i>Turkmenistan</i>	126
<i>Tajikistan</i>	126
<i>Uzbekistan</i>	121
<i>Azerbaijan</i>	101
Romania	80
<i>Ukraine</i>	79
<i>Republic of Moldova</i>	77
<i>Georgia</i>	74
<i>Serbia</i>	60

Eating disorders can be of several types, but the most known and diagnosed are anorexia and bulimia. They mainly affect young adolescents, but 10% of cases occur in young men. They are complex psycho-somatic-physiological disorders, involving psychological, neurobiological and socio-cultural components, which need long-term interdisciplinary support. An example for Romania is the Association for the Prevention and Treatment of Eating Disorders - APTTA, established in 2012. Its mission is to improve actions to prevent, detect, and treat eating disorders in Romania, by providing information, specialized help, and care to patients and their family entourage: online, through support groups, counseling, and psychotherapy (<http://www.anorexie-bulimie.ro/>)

5.2 Guides and standards

Guide to a healthy diet

The Romanian nutritional recommendations are based on a dietary guide published in 2006, *Guide to Healthy Eating*, written by the Romanian Nutrition Society and supported by the Ministry of Health. It includes basic information such as theoretical data on energy metabolism, the need and sources of macronutrients and/or micronutrients, water needs, influences and changes throughout life, nutritional assessments, and basic national nutritional recommendations. [8]

The nutritional recommendations are based on a briefly presented food pyramid, without a regular update.

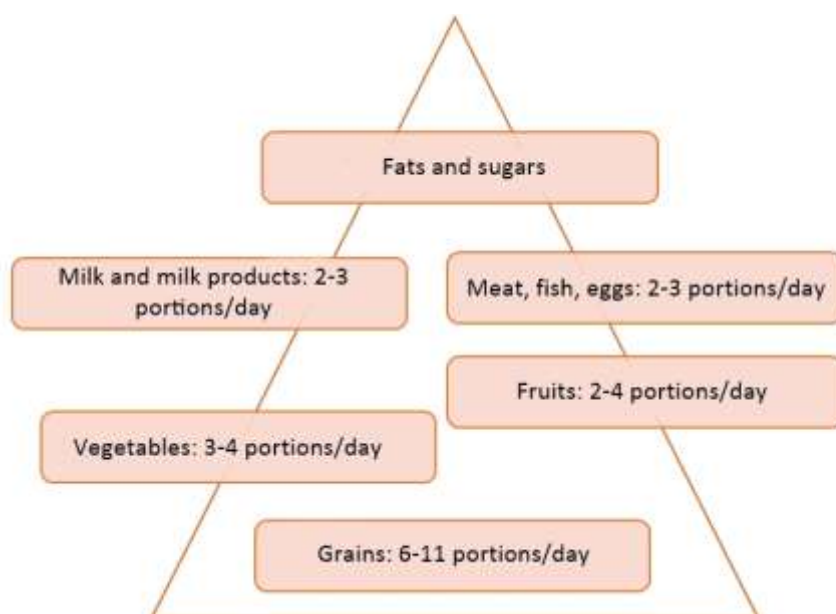


Fig.4 Food pyramid according to the Healthy Eating Guide, 2006 [8]

More detailed dietary recommendations that include macronutrient requirements and energy requirements are presented in Table 5.

Table 5. Macronutrient requirements according to the Healthy Eating Guide, 2006 [8]

<i>Age and gender</i>	<i>The energy required / day</i>	<i>Protein required%</i>	<i>Carbohydrate required%</i>	<i>Lipid required%</i>
1-3 years, both genders	1300	15	55	30
4-6 years, both sexes	1830	14	54	31
7-9 years, both sexes	2190	13	55	32
10-12 years old, male *	2600			
13-15 years old, male *	2490			
16-19 years old, male *	2310		58	30
Adults, female	2200			
Adults, male	2900			

** recommendations for females are missing from the guide*

Prevention guide - Healthy lifestyle and other priority preventive interventions for non-communicable diseases in primary care

In 2016, within the Public Health Initiatives program, the Guide to Prevention - Healthy Lifestyle and Other Priority Preventive Interventions for Non-communicable Diseases was published in primary care. Within it, the main approaches are focused on diet and physical activity. [9]

The food pyramid presented includes the basic food groups, with some significant changes compared to those mentioned in the previous guide.

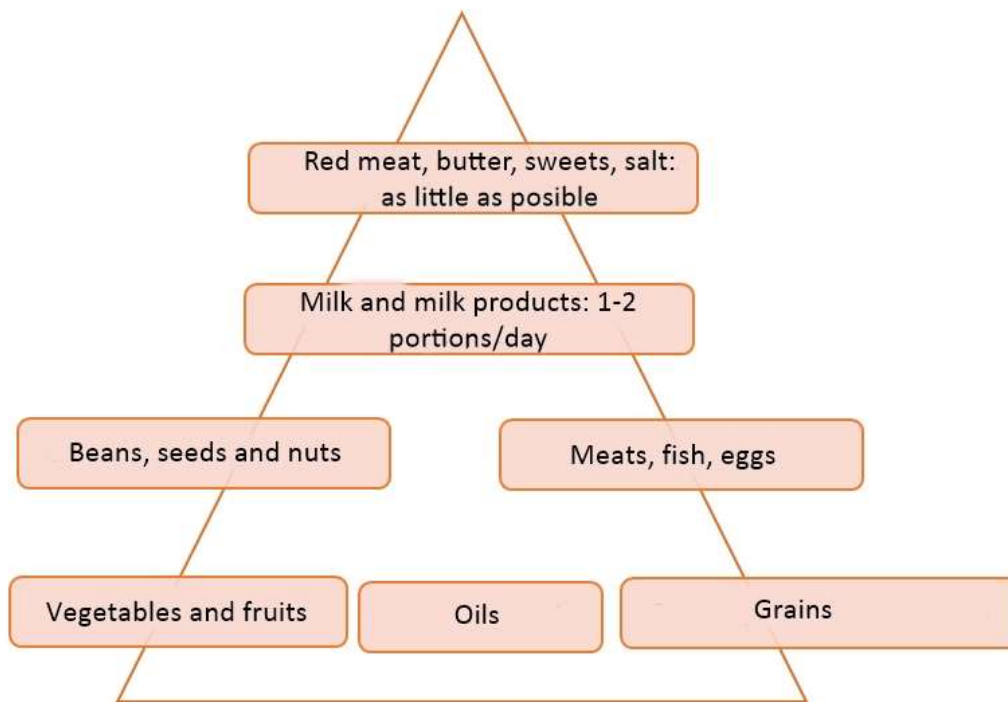


Fig.5 Food Pyramid of the Prevention Guide, 2016[9]

Unlike the previous guide, this guide also presents the plate of healthy eating, a scheme corresponding to the international and official guidelines of the Harvard School of Public Health. [9,10]

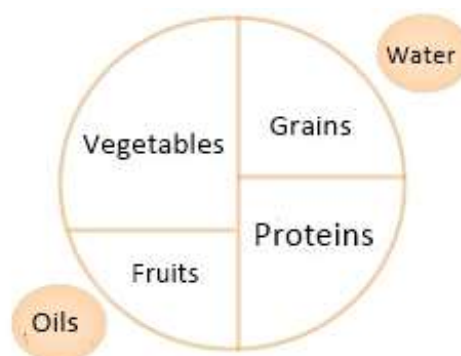


Fig.6 Prevention Guide Healthy Eating Plate, 2016 [9]

Although both approaches mainly include indications for an omnivorous diet, the current guide also provides recommendations for people with a vegetarian or vegan diet. It also includes various recommendations for compliance with a healthy diet, by international and national recommendations such as the principles of the DASH diet, the principles of the Mediterranean diet, the list of foods not recommended in schools, the principles of a balanced diet for children over 2 years, etc. [9]

An important aspect is the principle of standardization of obesity interventions presented in the section of annexes, making targeted recommendations based on a detailed anthropometric assessment: determination of weight, height, and ratio (BMI), determination and assessment of abdominal circumference, but also the possible connection between the two. The guide also includes recommendations for a food assessment based on a food diary and details on how it can be designed correctly. [9]

In terms of physical activity, the guide encourages the assessment of its level by various methods such as detailed anamnesis, frequency questionnaires, and characterization of sports activity but also by other methods such as the use of pedometers and other monitoring devices. The basic recommendations for physical activity are presented in Table 6. [9]

Table 6. Recommendations for sports activities [9]

	<i>Recommendation</i>
<i>Children under 5 years old</i>	At least 3 hours/day, daily, through age-appropriate activities (mainly in the form of play and recreational activity), under supervision
<i>Children aged between 5-17 years old</i>	Activities of moderate-intensity - intense, at least 3 times/week
<i>Adults</i>	2.5 - 5 hours of activity/week at moderate intensity or 1 - 2.5 hours/week at high intensity

Other guides

Also in 2016, several guides were published nationwide to support a healthy lifestyle and reduce the risk of obesity such as:

- Prevention guide - Healthy lifestyle and other priority preventive interventions for non-communicable diseases in primary care; [11]
- Prevention guide - Lifestyle preventive interventions. Alcohol consumption; [12]
- Prevention guide - Lifestyle preventive interventions. Smoking; [13]
- Prevention guide - Nutrition, growth and development problems in children: eating 0-2 years, growth and development disorders; [14]
- Prevention guide - Integrated preventive consultation. Recommended interventions for the child. Interventions recommended for adults. [15]

In 2021, the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" in Târgu Mureș, published the Community Nutrition Guide, dedicated to strategies for community preventive nutritional intervention in the life cycle, especially in childhood. [16]

5.3 National and local initiatives

Romania has developed over time a multitude of national and local programs to prevent obesity and raise awareness of the problem. From 2014-2020, the Ministry of Health had a national health strategy for preventing and fighting obesity in adults and children, financing and organizing various campaigns for the population.

National campaigns

- The national information month campaign on the effects of nutrition/nutrition, a program of the Ministry of Health, carried out at the local level through the Directorates of Public Health to increase the level of knowledge of the population and to improve the lifestyle and health condition [17]
- Campaigns are organized annually on the occasion of the European Day Against Obesity (ZEIO), programs organized by the Directorates of Public Health. This is a project in which the beneficiaries are informed about the diagnosis of this pathology, the implications, possible complications, etc. [18]
- The Roll and Milk Program – is a national program initiated in 2002 through which children in primary and secondary schools receive a daily dairy product and a bakery product [19,20]
- School Fruit Scheme – is a national program initiated in 2008 to provide nutrition education and deliver fresh fruit to children twice a week. The program is intended for preschoolers and schoolchildren [19,20]
- The hot meal program - a program carried out in schools, in the process of expansion, launched in 2016 [21].

Local campaigns

Other organizations that have implemented and/or supported national activities to reduce this pathology are The National Coalition for Combating Obesity; Romanian Forum for Obesity; Romanian Nutrition Society; Foundation for Healthy Eating; Association for Health Counseling and Education - Iasi; Lifestyle Prevention Medical Association - Bucharest; ASCOTID Mureş; Romanian Dietitians Association; Romanian Association of Nutrition and Dietetics; ProNutrition Association - Târgu Mureş; universities in the country that have a program in Nutrition and Dietetics, etc.

Renowned projects developed for the prevention and treatment of obesity at the local level are:

- *Sănătos de mic Program (Healthy from an Early Age Program)* - a program of the Health Association for Mothers and Infants in Cluj-Napoca, whose purpose was the nutritional education of preschoolers, their families, and staff in educational institutions, being carried out in over 200 kindergartens. It currently provides a nutrition guide for parents and educational games for children [22]
- *Şi eu trăiesc sănătos Program (I also Have a Healthy Life)* - developed by the PRAIS association in Bucharest, aims to combat non-communicable diseases, being based mainly on various extracurricular activities to promote a balanced lifestyle in primary school children and families [23]
- The educational program for the prevention of obesity among children in Iaşi, entitled *Traista cu sănătate - Healthy traditions for healthy children*, with guides and educational campaigns dedicated to middle school students, awarded in 2021 by the European Commission with the EU Health Award, in the Healthy Lifestyle Cities category. [24]

Although Romania has a large number of local and national projects focused on obesity prevention, health education, and increasing the quality of life, according to statistics the incidence of obesity is still increasing in all age groups. Thus, we consider the nutritional intervention is necessary in several fields by:

- Training medical staff in the assessment and treatment of childhood obesity to reduce both the number of overweight children and the number of overweight adults
- Training educational staff in the field of nutrition to increase the level of information received by children in educational institutions

- Educating children of all ages through compulsory and/or optional nutrition and health education courses
- Changing the legislative norms for food quality in educational institutions
- Updating existing dietary guidelines and drafting new guidelines in line with current nutritional recommendations
- Implementation of nutrition and health education campaigns and programs focused on existing problems at the local / national level and adaptation of existing ones according to the observed evolution and effectiveness
- Writing and disseminating simple nutritional materials for the population, to increase the level of knowledge.

Both obesity and eating disorders are complex, multifactorial conditions, constantly increasing in frequency, and the approach for their prevention and treatment must include multidisciplinary activity networks, individualized diets, psychological counseling, continuous monitoring, behavioral therapy, effective communication, and especially, compassion.

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6. Obesity and Eating Disorders (EDs) – Local Report in Serbia

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Abstract. *This chapter provides an outline of the national and local situation regarding obesity and EDs in Serbia. It particularly focuses on the statistical data, guidelines, regulations, and recommendations, and the promotion of wellbeing in connection to healthy eating, proper nutrition, and physical activity. The information in this chapter covers the general population in Serbia, but it specifically focuses on children and adolescents. One of the major conclusions is that even though there is sufficient data, a number of initiatives and recommendations regarding obesity and healthy eating, there is a gap when it comes to EDs.*

Key words: obesity, anorexia nervosa, bulimia nervosa, binge eating, Serbia

6.1 Introduction

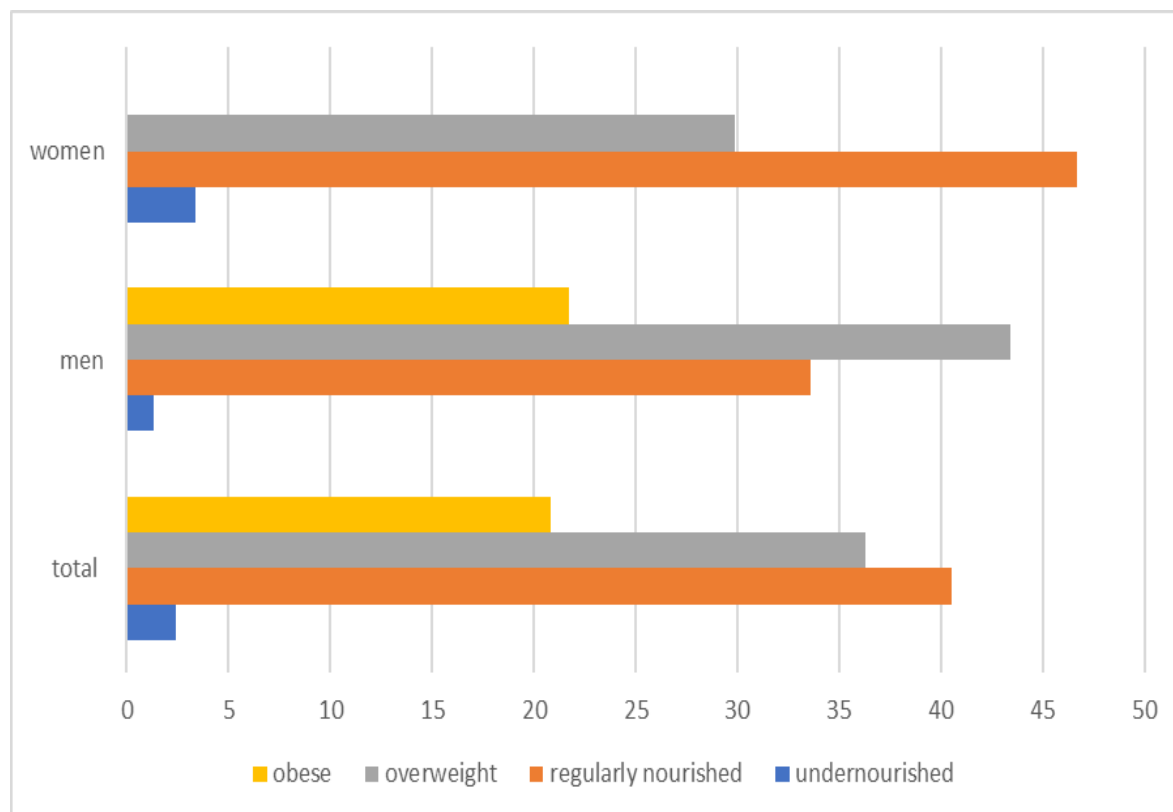
The fast pace of living has imposed numerous challenges on the modern man/woman and child. One of the main consequences of such a lifestyle is jeopardized wellbeing and health in general. Health has become a commodity for most people and the majority either does not have the means, the time, or the necessary information to lead a healthy lifestyle. One of the repercussions is a drastic change in diets and eating habits. Namely, nowadays people tend to skip breakfast, overindulge in snacking, avoid fruits and vegetables, have low intake of fibers and complex carbohydrates, and often opt for pre-made food or the so-called junk/fast food, which is extremely high in calories. Additionally, due to industrialization and globalization, i.e. the dominance of the internet and the fact that a large number of jobs include working on a computer or from home, there has been a significant increase in sedentary lifestyle followed by a lack of physical activity, another consequence of the fast pace of living and decrease in free time. These have not only affected adults, but also children and adolescents, who increasingly rely on technology (e.g. video games, apps, social media, etc.); screen time can lead to boredom and even anxiety, with the result of constant snacking or episodes of overeating [1]. Specifically in young adults and adolescents, traumatic or big life events can exacerbate and cause conditions such as anxiety, depression, phobias, etc., which can also be a gateway into overeating and obesity, or other mental issues and conditions such as eating disorders (e.g. anorexia and bulimia nervosa) [1][2]. Apart from these external factors, genetic and biological

factors can also be major contributors to obesity and EDs. Both obesity and EDs are becoming issues of importance for public health in Serbia, especially when considering children, adolescents, and young adults [3][4].

This chapter aims to give an overview of the data concerning obesity and EDs in Serbia, with a special focus on children and adolescents. Furthermore, the chapter will discuss current situation and trends, present existing guidelines and standards referring to the treatment of obesity and EDs, and explore national and local initiatives for the promotion of healthy eating, and wellbeing.

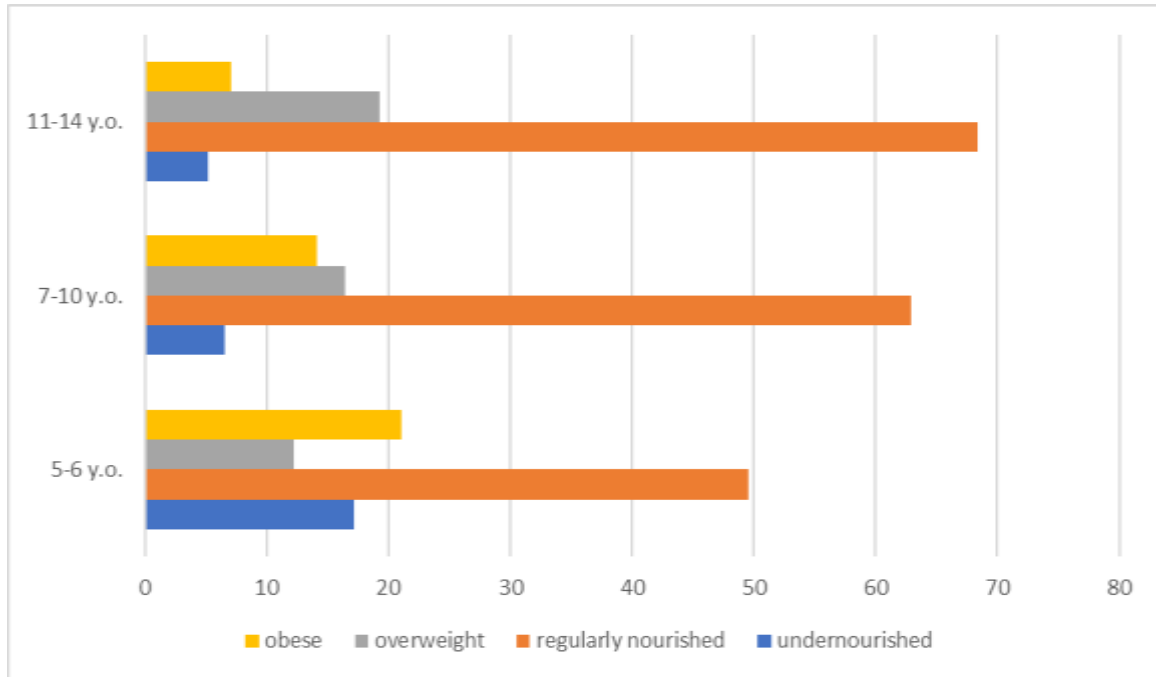
6.2 Healthy eating for young people with obesity and EDs – Serbian perspective

The research conducted in 2019 [5] measured BMI in the population over 15 years old in Serbia, and the results showed that more than a half of the participants were overweight or obese (Graph 1). The same research also explored the state of nutrition of children aged 5-14. The results pertaining to this group show that 12.9% of children are obese, whereas 16.6% are overweight [5]. The most affected group are the children aged 5-6 (Graph 2).



Graph 1. The state of nutrition of the population over 15 years old in Serbia (2019)¹⁸

¹⁸ Adapted from *Survey of Health of the Population of Serbia 2019 (Istraživanje zdravlja stanovništva Srbije, 2019)*, Statistical Office of the Republic of Serbia, the Institute of Public Health of Serbia, and the Ministry of Health of the Republic of Serbia [5]



Graph 2. The state of nutrition of children in Serbia (2019)¹⁹

This research also showed that about half of the children aged 5-14 in Serbia eat fruit and vegetables on a daily basis, whereas the other half consumes these food groups rarely or never. Significant differences are seen in children based on the social and geographical position. Namely, children living in the capital or coming from well off families eat fruit and vegetables considerably more often. Almost a half drink sweetened non-alcoholic drinks at least 4 times a week, whereas almost a fifth drinks them daily. [5]

According to the same research, more than two thirds of children in Serbia participate in some sort of physical activity at least once a week/approximately 4.8 hours per week (boys more regularly than girls).

Obesity in Serbia

Weight recidivism, i.e. obesity seems to have become an epidemic and one of the least recognized public health threats both globally and in Serbia [4][6].

According to the official data, in the year 2000, 8.2% of children and adolescents (7 to 17 years old) in Serbia were overweight, whereas 4.4% were obese. In 2006, the prevalence increased, so there were 11.6% of overweight and 6.4% of obese children and adolescents. Finally, in 2013 the percentage of overweight individuals reached 13.7% in the population of 7-year-old to 14-year-old children [3]. However, according to the Ministry of Health of the Republic of Serbia the results are even more worrying as they reported there were 20.2% of overweight and 8.9% of obese adolescents in 2013 [7]. Following these reports, in 2018 the Government of the Republic of Serbia adopted the National program for the prevention of obesity in children and adults.

According to the national report Health Behaviour in School-aged Children in Serbia 2017 (HBSC), a WHO collaborative study, conducted and published for Serbia by the Institute of Public Health of Serbia, almost one fifth of students are overweight (18.2%) while every sixth student is obese (5.7%). The highest percentage of underweight (4.4%) and obese (7.8%) are among 11-year-old girls, while the highest percentage of overweight students is among 13-year-

¹⁹ Adapted from *Survey of Health of the Population of Serbia 2019 (Istraživanje zdravlja stanovništva Srbije, 2019)*, Statistical Office of the Republic of Serbia, the Institute of Public Health of Serbia, and the Ministry of Health of the Republic of Serbia (Milic et al. 2021)

old boys (21.1%). When it comes to body image 13.7% of students believed that their weight is lower than desirable, while 26.1% consider themselves obese. Moreover, 17.2% of students were on a diet or undertook some other action to reduce weight. During the working week, 58.8% of students eat breakfast every day, while 7.5% of them never eat breakfast. Every tenth 15-year-old girl never eats breakfast during the working week. 42.2% of students consume fruit daily (45.3% girls, 39.1% boys), while 2.6% never consume fruit (2% girls, 3.2% boys). 42% of students consume vegetables daily (46.7% girls, 37.3% boys), while 4.3% never consume vegetables (3.5% girls, 5% boys). Around one fifth of students drink sweetened non-alcoholic beverages daily (22.4%), boys more often than girls. Intake of sweet non-alcoholic beverages increases with age. More than one third of students eat sweets daily (35.8%), boys more often than girls. Intake of sweetened non-alcoholic beverages and sweets increases with age both in girls and boys. One third of students were physically active every day for one hour (33.6%), while outside school classes half of the students were engaged in physical activity four times per week or more (51.1%), in line with recommendations. In all age groups, boys were more physically active than girls and with age there is evident decrease in physical activity levels, especially in girls. Four fifths of children (82.5%) eat dairy products/drink at least a cup of milk daily. There has been an increase in consumption of milk and dairy products since 2013 and 2006 (74.2% and 60.4% respectively). Every second child eats fruit (52.3%) and vegetables (53.9%) daily. Two thirds of children (68.5%) engage in physical activities in their free time. Compared to the previous survey (2013) there has been a decrease in physical activity in the population of school-aged children. [8]

According to the Survey of Health of the Population of Serbia 2019, conducted by the Statistical Office of the Republic of Serbia, in cooperation with the Institute of Public Health of Serbia and the Ministry of Health of the Republic of Serbia, with the financial support of the EU, among children aged 5-14 12.9% are obese, while 16.6% are moderately obese. A considerably higher number of obese children has been registered in the population of preschool-aged children. Since the previous survey conducted in 2013, there has been an increase of the number of obese children in the population of school-aged children. In 2013 in the population of children aged 10-19 there were 20.2% of overweight and 8.9% of obese adolescents. Compared to the survey done in 2000 there was an increase of overweight adolescents (5.9%) and of obese children (4.5%). [5]

The latest information regarding obesity in Serbia can be found in the National guide to good clinical practice – obesity treatment (2022), where the World Obesity Federation's predictions for Serbia have been presented. Namely, it is expected that by the year 2030 27.8% of adults will be obese, with the yearly increase in weight of 1.7% for adults and 4.5% for children between the years 2010 and 2030. [4]

Within the project Support for the mental health of young people in Serbia [9] research was conducted by the Centre for education, research and development and supported by the Ministry of youth and sports in 2013. The research included 40 secondary schools in Serbia. There were 1000 participants (46% of boys and 54% of girls). The results showed that: 22% of participants relatively often worried that they would gain weight or thought they already were too fat while every third girl was worried about her weight; 22% of participants relatively frequently had episodes of overeating; 14% of participants had an impression that their self-confidence depended on their ability to stay thin, which indicates the presence of increased concern for physical appearance and is in accordance with the social pressure of being 'fit' and the importance of body image in this developmental period; 18% of participants relatively often skipped meals during the entire day as they had no appetite; 6% of participants were worried for being too skinny; 7% of participants reported eating too quickly during 'eating attacks', continuing to eat even when they already felt sick, feeling worried that they could not control themselves when eating; the care for physical appearance was more prominent in those participants with more negative self-evaluation.

Additionally, according to the *Strategy for Development of the Health of Youth in the Republic of Serbia* around 25% percent of young people from the general population and around 50% of young people from marginalized and socially vulnerable groups are not equipped with the knowledge and skills concerning healthy lifestyle including eating disorders. [10]

EDs in Serbia

Eating disorders are a significant source of (psychiatric) morbidity and are a relevant sociomedical and economic problem, as well as an alarming issue in public health worldwide [11]. The most common eating disorders include anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED).

Anorexia nervosa is characterized by the refusal to maintain a healthy age-appropriate body weight, i.e. not a loss of appetite, but a constant struggle against the urge to eat [12][13]. Additionally, irrational fear of gaining weight, distorted body image, and amenorrhea, in females, are present. Anorexia is one of the mental disorders with the highest incidence of mortality, and it typically affects young females aged 13-20 [13] or 15-24 [14]. In Serbia, this disorder seems to be prevalent, especially in the population of adolescent girls [15][16].

Bulimia nervosa is a common psychiatric disorder characterized by repeated episodes of over-eating with the aim of avoiding gaining weight [12], self-inflicted purging, use of weight-loss products, laxatives and diuretics, and overexercising [13]. Outward signs of bulimia nervosa include loss of tooth enamel, cracked lips, thyroid problems, irregular menstrual cycle etc. [13] BN seems to be more prevalent than AN, even though it is milder and less commonly leads to mortality. [17]. Similarly to AN, BN is more prevalent in young females and in 20% of cases it occurs with AN. [13]

Binge eating disorder typically affects people who already have a fragile perception of their own bodies, i.e. body image, and it is especially present in people who have gone through some kind of weight-loss programme, or who are obese [14]. Middle-aged individuals (40-50 years old), more frequently females, are most commonly affected by this disorder [14][18]. It is characterized by compulsive eating. In the student population, overeating and restrictive diets are very common mechanisms used to overcome stress induced by new tasks and obligations. [19]

A cross-sectional study with 220 participants (16-25 years old) was conducted in Kragujevac (a city in central Serbia) pertaining to behaviours and attitudes about body image and EDs and EAT-26 (Eating Attitude Test) was used. The results showed that 17.6% of the participants were malnourished. Out of all the participants 4.4% were classified as subclinical bulimic, 13.7% had an ED not otherwise specified, and 8.8% participants suffered from subclinical anorexia. The study concluded that the children of divorced parents and the children dissatisfied with their socioeconomic status developed an ED more frequently. Furthermore, girls from urban areas compared to those from rural areas typically have lower weight (with a tendency towards extreme thinness), and are more likely to suffer from an ED. A curious finding was a very low number of overweight girls in comparison with previous studies. More than a half of the participants expressed a wish to lose weight, although their weight was within the normal range. A particularly alarming finding was the fact that 30.4% of the girls who participated in the study had a score over 20 on EAT-26, which is an indicator that Serbia is one the countries with the highest prevalence of EDs. [15]

Another study pertaining to the level of prevalence of EDs in the population of university students (1059) aged on average $22,14 \pm 2,29$ examined the most common EDs – anorexia nervosa, bulimia nervosa and the binge eating disorder. The results concerning AN showed that 1.9% of students can be diagnosed as suffering from AN. When it comes to female students, this prevalence was 3.2%. The highest prevalence of AN was found in individuals suffering from depression. A total of 13.5% of the students were found to fulfil all the diagnostic criteria for BN. The prevalence was slightly higher in male students (14%) compared to the female students

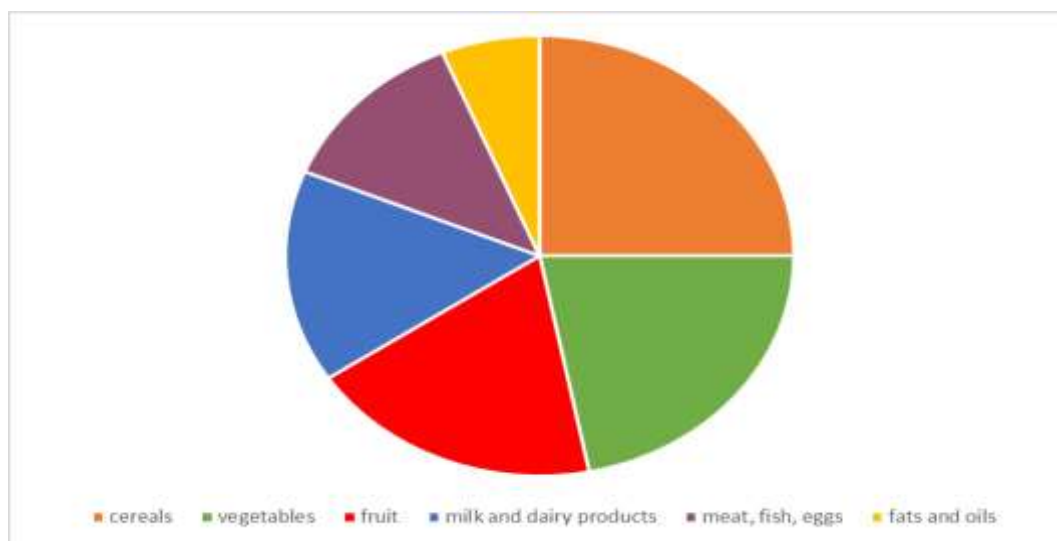
(13.2%). Similarly to AN, the students who expressed more symptoms of depression could also be diagnosed with BN. The prevalence of BED in the student population was 14.4%, with male students being more prone to it (15.2%) compared to female students (13.8%). [20] Another study that examined the population of university students found that the third highest group of symptoms based on intensity is the worry regarding their eating habits and they highlight the dissatisfaction with their body weight and uncontrolled appetite as the most common problems. [21]

Finally, a study examining the stigmatization of individuals suffering from EDs which included 575 participants (over 16 years old) concluded that 12.9% of the participants had a negative attitude towards individuals suffering from EDs – 58.9% had a neutral attitude, and 28.1% a positive attitude. Interestingly, the respondents older than 45 had the most negative attitude towards these individuals, whereas the youngest respondents had the least negative attitudes. The particularly relevant finding refers to the perception of the danger these individuals pose to themselves or others. The majority of the participants (76.1%) do not consider these individuals dangerous to others, 53.3% believe that that these individuals are the only ones to blame for their condition, 70.9% think treatment may help them, and 60.2% believe that these individuals could improve their condition if they wanted to (“if they pulled themselves together”). [22]

6.3 Guidelines and standards

Healthy eating

According to the Handbook for Peer Education “Proper Nutrition and Eating Disorders” [13] the goal of a healthy diet is the maintenance and/or achieving desirable weight in combination with physical activity (minimum 60 minutes per day). The end goal of this kind of behaviour should be the continuum of wellbeing and prevention of ill health. The general principles to adhere to in order to achieve the previously mentioned include the following: daily consumption of fresh fruit and vegetables, eating lean meats and fish, avoidance of fatty meat, giving priority to wholemeal cereals, avoidance of deep fried and fatty pastry products and snacks, opting for fruit salads/compotes, nuts, dried fruit for desert. Apart from this, 1.5-2.5 litres of liquid (e.g. water, tea) should be taken daily.



Graph 3. Food groups - recommended ratio

The Handbook for Peer Education “Proper Nutrition and Eating Disorders” offers guidelines for healthy eating for two different groups of children - 2000 Kcal/day for those who

are not physically active and 2300 Kcal/day for children who are physically active. These two healthy diet recommendations both contain five food groups (Graph 3) and they only differ in the number of portions – e.g. four portions of cereals for children who are not physically active and five portions for those who are physically active. [13]

Obesity treatment

The National guide to good clinical practice – obesity treatment (2022) highlights communication as one of the key factors in successful treatment of obese patients, and adherence to an approach in which there is no discrimination/stigmatization of the obese patient. Additionally, the guide emphasizes the importance of a multidisciplinary approach which includes healthcare workers of different specializations and orientations (e.g. nurses, GPs, psychologists and psychiatrists, etc.).

In terms of communication, the guide differentiates between two groups of patients: those whose primary complaint is obesity, and those whose primary complaint is something else. When it comes to the latter group, it is recommended to first ask the patient's permission to talk about their BMI. In both groups, it is important to avoid passing judgment and humiliating the patient, as well as to create a pleasant atmosphere and to adopt a motivational approach, while being empathic throughout the encounter. Furthermore, one needs to establish the patient's readiness for lifestyle changes. The doctor can steer the patient by first asking about the negative aspects of the changes, followed by questions about the positive aspects of the changes – a tendency to enumerate more positive aspects should be present.

Stigmatization is a serious problem whose potential consequences include: a higher risk of depression, low self-esteem, negative body image, risk of developing EDs, avoidance of physical activity, increase of BMI, avoidance of asking for medical help, and suicide. Apart from the previously mentioned empathetic and non-judgemental approach, the medical professionals are advised to avoid using hurtful and abusive vocabulary, and to switch from saying *an obese patient* to *a patient with/suffering from obesity*. Certain GPs and specialists believe that obese patients are lazy, uncooperative, unintelligent, etc. Therefore, the guide urges medical professionals to keep in mind that obesity can have a complex aetiology, that the patient does not always have conscious control over it, and that they more often than not have negative experience with medical professionals.

The clinical evaluation of obese patients should include a twelve-step history taking: 1. the patient's expectations and willingness to change; 2. chronological evaluation of BMI; 3. identifying the reasons that lead to obesity (e.g. pregnancy, childhood abuse and neglect, etc.); 4. the evaluation of previous treatments and their success rate; 5. the degree of the patient's motivation to lose weight; 6. the level of expectations regarding the reduction of BMI and waist circumference; 7. identification of lifestyle regarding physical activity, important life milestones, etc.; 8. family history; 9. psychological evaluation of the impact of negative body image; 10. social history and evaluation of tendencies towards EDs, depression, anxiety, stress, etc.; 11. food intake profile (eating behaviour); 12. the level of attentiveness and awareness of how much and in what manner the patient eats (e.g. level of hunger vs. fullness), and potential episodes of bulimia, Night Eating Syndrome (NES), hyperphagia, etc.

The medical professionals and the patient should strive towards the following goals when it comes to the treatment of obesity: prevention/treatment of comorbidities, keeping the patient metabolically healthy, regaining a positive body image, self-esteem and satisfaction. Losing weight should not be the primary goal, but any changes in the patient's health should have long lasting effects. Additionally, as medical terminology can be confusing for patients and prevent them from fully understanding their condition, patient education plays an important role in obesity treatment. Education of patients provides them with more information about their status/condition and empowers them to make decisions that can have a positive effect on

their motivation, and in the long run the sustainability of the treatment. Obesity treatment is three-pronged: nutrition and eating habits, physical activity, and psychological aspects.

Regarding nutrition and eating habits the first and the most important step is to regain physiological sensation of hunger and fullness which are disrupted and distorted in obese individuals. An important aspect of regaining this sensation is to stick to an eating schedule which helps avoid the pit-in-the-stomach feeling as waiting too long between meals can be counterproductive. Some recommendations include slow eating/chewing, no distractions (e.g. TV, smartphones, etc.), eating at the table, reducing the energy intake, keeping a diary to raise awareness of our eating habit, etc.

When it comes to physical activity, i.e. inactivity, the important aspect of exercising is the reduction of visceral fat in order to lower the risk of occurrence of various comorbidities. The guide prescribes at least 150 minutes per week of moderate anaerobic activity (e.g. walking at a speed of 5-6 km/h). The patient has the independence to decide on the intensity of exercise, however, the total time of exercising should gradually be increased as patients tend to relax and slack as the exercise treatment continues. Resistance exercises should also be included in order to involve large muscle groups (2-3 sessions at least twice a week with 8-10 exercises per session). It is not necessary to do sports, although some sports are more appropriate for obese patient (e.g. swimming, cycling, Nordic walking, etc.). Strenuous exercises should be prescribed to patients only after a cardiologist's assessment, and the stress test should be used for patients with comorbidities (e.g. type 2 diabetes).

The guide highlights eating disorders that accompany obesity such as overeating, NES, and constant snacking and emphasizes that they should be treated by specialists (psychiatrists, psychologists, obesity specialists) and with the help of cognitive-behavioural therapy. The cognitive-behavioural therapy has good results and some of the steps include: increase of motivation, restructuring of daily intake of food (e.g. three meals a day), recognising triggers and stimulants, developing strategies for avoidance of snacking and compulsive overeating, examining and identifying automatic negative thoughts, evaluating the level of anxiety, etc. Psychotherapy is also recommended as well as art therapy, hypnosis, gestalt therapy, drama therapy, etc. The overall aim is to improve one's body image either through individual or group therapy.

Finally, if necessary, pharmacotherapy can be included in obesity and comorbidity treatment. If comorbidities are present, they should be treated first without focusing on the reduction of BMI. When it comes to medications used for obesity treatment, the market recognises only three: orlistat, the combination of bupropion and naltrexone, and liraglutide. Pharmacotherapy and bariatric surgery should be considered if lifestyle changes are not present or if behavioural treatment fails. [4]

EDs treatment

Unlike obesity, there are no national guides or recommendations to date considering the treatment of EDs, specifically anorexia nervosa, bulimia nervosa, and BED, in Serbia. However, *Handbook for Peer Education "Proper Nutrition and Eating Disorders"* (2019) is a useful guide in recognising problems, raising awareness, and education of school children. It is based on peer-to-peer education and it consists of five workshops. The workshops focus on the following: proper nutrition – caloric and nutritive aspects of diet; intake of water, sugars and salts; anorexia nervosa and bulimia nervosa; media literacy and nutrition; and introduction of proper nutrition in schools. Specifically, the workshop that focuses on anorexia nervosa and bulimia nervosa has the goal of informing the students about the most common EDs in their age group, adoption of healthy eating habits and avoiding diets without the recommendation of a physician. Additionally, this workshop focuses on the emotional development and the recognition and verbalisation of one's emotions, and the mobilization of peer support. The target group implies high school students (14–19-year-olds) and school staff. The method deployed includes

interactive, group work and a case study. The moderator of the workshop can find all the necessary and relevant information in the handbook which enables and empowers them in the educational process. [13]

When it comes to clinical practice, the differential diagnosis of AN is particularly difficult due to the fact that the patients hide their symptoms and have no wish to be treated as their environment stigmatizes their condition and rejects it as bizarre behaviour. It is typically diagnosed in patients who have lost weight by means of strict diets and/or over-exercising, and whose weight-loss is not an indication of some other conditions (e.g. diabetes, hyperthyroidism, tumours, etc.). The prognosis for these patients can vary drastically. A quarter to a half of the patients recover completely, whereas around 5% of the patients die due to chronic consequences of starvation or they commit suicide. A certain number of patients also have alternating episodes of betterment and worsening of their condition. Almost all physiological irregularities caused by AN can be improved, except for the reduction of bone mass. The goal of AN therapy is to regain at least 90% of the expected BMI. The patients who are below 75% of the expected BMI should be hospitalized. In extremely undernourished patients 1200-1800 kcal per day should be administered either in meal form or liquid form several times a day, and can be gradually increased to 3000-4000 kcal per day. The goal is for the patient to gain 1 to 2 kg per week. The patients suffering from AN need to be treated by a team of specialists – endocrinologist, nutritionist, and neuropsychiatrist. Additional psychiatric treatment should be included for those patients who also develop signs and symptoms of depression, self-harm, OCD, and suicidal tendencies. [23]

6.4 Promotion of well-being - national and local initiatives

The Regulation of the National program for the prevention of obesity in children and adults highlights two aims: the promotion of healthy lifestyles and health improvement of the entire population and the reduction of the incidence of obesity in children, youth, adults and the elderly. National political priorities are focused on several fields: healthy diet, physical and preventive activities, public health, education, cooperation and legislative regulations.

When it comes to the healthy diet, national political priorities include: the promotion of a healthy diet in accordance with the dietary guidelines, increased fibre intake and reduced intake of foods high in fats and sugar; improvement of the eating habits of infants, children, youth and adults; improvement of child nutrition in preschool institutions and schools; prescription of national recommendations for child, youth and adult nutrition; monitoring of the dietary habits of children, youth and adults; and the establishment of a healthy eating scheme by using various colours in order to make healthy food easily recognized.

National political priorities in the field of preventive and physical activities include: the promotion of healthy lifestyles and the encouragement of regular physical activity; the prevention of weight gain in individuals with normal body weight; the reduction of the incidence of obesity, other diseases and obesity complications; the encouragement of weight loss in overweight and obese individuals, maintaining the achieved weight and preventing gain weight in individuals with high BMI; an increase in physical activity with the support of a healthy environment; recommendation of the desired level of physical activity for children and youth; and support for local governments to increase physical activities by making open and closed spaces available.

In relation with public health, national political priorities are the following: encouraging the development of health culture concerning the importance of proper nutrition for health maintenance and physical ability; stopping the tendency of an increase in the number of overweight children, youth and adults; intensifying preventive activities and promotion of healthy diets in primary health protection; and strengthening health promotion in various sectors.

When it comes to education, educating consumers on healthy diet and moderate eating is the key national political priority.

In the field of cooperation, national political priorities include: the improvement of cooperation with food producers in order to get healthier products from them (with decreased amount of salt and sugar, limited level of saturated fats and no trans fats) and the improvement of international cooperation and implementation of harmonized methodology in researching dietary habits and monitoring the nutritional status.

Finally, in the field of legislative regulations, national political priorities include: the improvement of legislation regarding food declarations and the production of a legislative draft on restricting advertising of foods high in sugar, salt, saturated and trans fats intended primarily for children and youth and in accordance with the recommendations of the European action network on reducing marketing pressure on children. [24]

The Centre of Excellence in Nutrition and Metabolism (CENM), University of Belgrade, is involved in research that has three directions: 1. biochemical research; 2. research in the field of public health and nutrition; 3. research in the field of the effects of nutritive and non-nutritive bioactive components in food. In the field of public health CENM works intensively on capacity building, development and management of a food composition database for Serbia and the Balkan region, harmonization of nutritional recommendations on micronutrient intake and creation of software applications with an objective of validating the scientific methods intended for application in dietary assessment. Through participation in a number of FP6 and FP7 projects, the Centre has created the first electronic Serbian Food Composition Database, which is harmonized with the databases of other European countries. One achievement of particular importance is the creation of an electronic platform with several programs for food consumption data collection, comprehensive dietary assessment and nutrition planning. CENM researchers have contributed to the pan-European harmonization of micronutrient recommendations intended for diverse population groups within the frame of the FP7 EURECA project. Through activities of the FP7 CHANCE project and numerous advanced trainings in the country and abroad, CENM researchers have developed methods of modelling and simulation of the food fortification effect on the diet quality. From 2013 onwards, CENM researchers have established a doctoral studies module at the Faculty of Biology, University of Belgrade, named Integrated Nutrition Sciences, as the first postgraduate program in the field of nutrition in Serbia but also in the Balkan region.

Another important centre in Serbia is the Centre for prevention and treatment of obesity in children and adolescents in Serbia (founded by the Special hospital for thyroid gland and metabolism diseases Čigota, Zlatibor). The programme of this centre focuses on the reduction of obesity, obesity related diseases, and the reduction of death rate of obese individuals. The programme started in 1989 and has since then developed into one of the leading institutions in the field. The multidisciplinary team working in Čigota relies on each member to help with the prevention of obesity, early detection and intensive treatment of obese patients. [25]

Teachers of the Faculty of Medicine, University of Belgrade (UB), are members of numerous expert teams that adopt national strategies, regulations and programs which regulate this particular field. They also cooperate with the industrial sector on the subject of food composition. The Festival of Health is organized on a regular basis in Belgrade, Serbia, and among other activities it offers the assessment of nutritional status and nutrition tips by medical experts from the Faculty of Medicine, UB, as well as round tables and lectures intended both for medical professionals and the general population. Teachers from the Faculty of Medicine regularly take part in these activities. Additionally, there are several projects and initiatives designed and executed by the students of the Faculty of Medicine, University of Belgrade. One of the projects is "To eat or not to eat, that is the question" (since 2010) organized by the Medical Students Union, Faculty of Medicine, UB. In this project high school students are

informed through interactive workshops about healthy eating and proper nutrition, the necessity of physical activity, misconceptions about reductionist diets, dietary supplements and products for weight loss, the consequences of inadequate intake of food that can lead to the development of various diseases (e.g. obesity, atherosclerosis, type 2 diabetes, etc.), and about EDs. Furthermore, students of the Faculty of Medicine, UB, were also involved in educating the population visiting big shopping malls on the necessity of reading nutritional declarations. Medical experts from BU and medical students are also involved in educating primary school children on healthy diet and the importance of regular physical activity. The Faculty of Medicine cooperates with paediatric hospitals organizing workshops on healthy diet where children learn about healthy food and are taught how to make toys using groceries. There is an ongoing cooperation with *The Special Hospital of Thyroid Gland and Metabolism Diseases Čigota, Zlatibor*. Moreover, the medical experts and students from the Faculty of Medicine are involved in educating PE teachers in schools on the importance of healthy diet and regular physical activity.

Finally, the most recently concluded project "*The Risk Factors and Consequences of Obesity in Adult Patients in the Republic of Serbia (Prevention due to the Covid-19 pandemic and the improvement of treatment)*" conducted by the Institute of research and good practice development *Well-Being International* in the cooperation with the Ministry of Health of the Republic of Serbia. The aim of the project was to support the state in the development and establishment of an effective national system for obesity prevention in the adult population, to evaluate the risk factors for the increase of obesity in adult population in Serbia in order to create an effective campaign that would serve in raising awareness about the harmfulness of obesity and harm reduction of the consequences of obesity. The project is in accordance with the efforts of the Ministry of health, and the Regulation of the National program for the prevention of obesity in children and adults. The results of this project anticipate measures that fall under the scope of medicine, economy, and society. The medical measures include the dissemination of *the National guide to good clinical practice – obesity treatment (2022)* and CPD of medical professionals based on this guide, obligatory weighing and recording of the BMI of all patients that should be present in their medical records, keeping record of obese individuals, the inclusion of body fat analysers (scales) in ambulatory care, and the establishment of multidisciplinary obesity centres in Clinical centres of the major regions in Serbia. The economic measures presuppose the estimation of the expenses of obesity, the development of the healthy food programme and the programme for food that contributes to the development of obesity, the promotion and special labelling of healthy food, the imposition of special taxes on food that causes and aids obesity and clear food declarations, the prohibition of distribution of product that contribute to the development of obesity in public institutions and schools, subventions to individuals suffering from obesity during their treatment, and the extension of the list of medications for obesity treatment especially for the most economically vulnerable citizens. Finally, the aim of the social measures is to raise awareness about obesity and its harmfulness, to recognise obesity as a chronic disease, to destigmatize the obese, to set up educational programme for school children, and to develop and promote physical activity programmes. [6]

6.5 Conclusion

This chapter attempted to provide a report on the local and national situation concerning obesity and EDs in Serbia. We have seen that obesity in Serbia is on the rise, especially in children, and that the predictions for the year 2030 see an increase of 1.7% for adults and 4.5% for children. On the other hand, one study [15] claims that Serbia is one of the countries with the highest prevalence of EDs, and another [22] shows that the individuals suffering from EDs still face stigmatization in Serbia.

Healthy eating and nutrition, especially for children and adolescents, seem to follow the general food pyramid and the global standards pertaining to recommended portions of all five food groups, and liquid intake. When it comes to obesity, the guidelines revolve around the establishment of a partnership between the medical professional and the patient, empathic communication, motivation for long-lasting lifestyle changes, destigmatization of obese patients, clinical evaluation based on a patient-oriented history taking, prevention of comorbidities, and possible inclusion of pharmacotherapy and bariatric surgery if all other options have been exhausted. On the other hand, there are no national guides, recommendations, or regulations regarding EDs. However, the *Handbook for Peer Education "Proper Nutrition and Eating Disorders"* (2019) has been developed, and from the perspective of clinical practice there are certain steps implied in the diagnosis, prognosis, and the treatment of AN. Therefore, we can conclude that Serbia lacks in official data and recommendations when it comes to AN, BN, BED, or EDs in general.

Promotion of wellbeing regarding obesity, healthy eating and proper nutrition in Serbia has been actualized through numerous local and national projects, centres, and initiatives, whereas EDs have not been recognized as a burning issue.

Therefore, we can conclude that even though a lot has been done in the research and the standardization of the medical approach towards obesity and the promotion of healthy eating, there is still a lot to be done at the national and local level, especially in the field of EDs.

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7. Epidemiological data and nutritional programs for European young people with obesity and eating disorders - Transnational report

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Abstract. *Obesity is a major global health problem, along with Eating Disorders, especially for teenagers and young adults. In EU and worldwide the frequency of this disease is increasing, in spite of a vast number of international strategies and community interventions focusing on mitigating the evolution of this pathology and increasing the quality of life. Both obesity and Eating Disorders are complex, with multifactorial conditions, constantly increasing in frequency, and the approach for their prevention and treatment must include multidisciplinary activity networks, individualized diets, psychological counseling, continuous monitoring, behavioral therapy, and communication skills.*

7.1 Introduction

Obesity is a major global health problem, along with Eating Disorders, especially for teenagers and young adults.

For obesity, a vast number of international strategies and community interventions are focusing on mitigating the evolution of this pathology and increasing the quality of life. But an efficient worldwide protocol didn't rise yet, because geography, culture, ethnicity, preferences, and epigenetic disruptors, are so different from one country to another.

Eating Disorders can affect individuals of different age groups, but the average age of onset is adolescence, and the frequency is increasing. It is needed for more programs and interventions to have a clear picture of the worldwide situation and risk profiles.

The obesity stigma causes adolescents to adopt wrong behavioral attitudes, which can turn into malnutrition or nutritional disorders in order to be accepted into groups of friends. This is one of the main reasons why they need social, informational, and medical support.

This is the Report regarding these two conditions' risk profiles management and national programs developed in the 6 countries involved in this project.

7.2 Prevalence of data

In **Romania**, according to EUROSTAT, in 2019, 0.8% of Romania's population was underweight, 40.6% had normal weight to height, and 10.9% of the population was diagnosed with obesity. [1] Estimates for 2030 show that in children, there will be an increase in the incidence of obesity to 20.06% (5-9 years) and 14.3% (10-19 years), respectively.

Also, in the estimates for the evolution of childhood obesity, Romania is at the top of the 10 European countries with the biggest problems, along with Slovenia, Albania, Serbia, Bulgaria, Turkey, Hungary, Croatia, Greece, and others.[2] Regarding the distribution by sex, there is a higher incidence of males overweight: 55.9% and 11.1% for obesity, respectively. Females are less affected by being overweight (40.1%) than males, with almost the same percentage of obesity (10.8%). [3,4]

The prevalence of ED is not well represented in statistics, varying around 0.6% (for Bulimia) and 0.9% for Anorexia, with the mention that in reality, the preponderance can be much higher. Obesity, stress, puberty, and psycho-emotional trauma are the main influencing factors. [5,6]

The research conducted in 2019 measured BMI in the population over 15 years old in **Serbia**, and the results showed that more than half of the participants were overweight or obese, 12.9% of children were obese, and 16.6% were overweight. The most affected group is the children aged 5-6 years old. The latest information regarding obesity in Serbia can be found in the National guide to good clinical practice – obesity treatment (2022), where the World Obesity Federation's predictions for Serbia have been presented. Namely, it is expected that by the year 2030 27.8% of adults will be obese, with a yearly increase in weight of 1.7% for adults and 4.5% for children between the years 2010 and 2030. [7]. Additionally, according to the *Strategy for Development of the Health of Youth in the Republic of Serbia* around 25% percent of young people from the general population and around 50% of young people from marginalized and socially vulnerable groups are not equipped with the knowledge and skills concerning healthy lifestyle including ED. [8]

According to the latest data from 2018, 15% are overweight and 6% of **Czech Republic** teenagers are obese. Problems with excess weight are more common in boys, both in the case of overweight and obesity. The number of obese boys is increasing. A significant increase in the number compared to the data from 2014 concerns the age category of 15-year-olds. We are also registering a significant increase in the number of overweight girls aged 13 and 15. Here, too, the importance of socioeconomic status is confirmed. The prevalence of obesity is up to 3 times higher in children from families with lower income and lower educational levels.

Data about Eating Disorders are more difficult to find. Unlike the anthropometric records or self-reported data in surveys, eating disorders are recorded under diagnostic codes (F50.0–F50.9) and fall into a category of health diseases. In 2020, a total of 5,167 people were treated for EDs in outpatient clinics and there were 606 hospitalizations. [9]

The number of patients increased especially among adolescents aged 15-17. In 2020, 1,093 of them were treated, which is an astonishing 89% more than in 2010. Most patients, 87%, were women and girls. High mortality exceeds 10%. Mortality is twice that of other psychiatric diagnoses and ten times higher than that of the general population. The risk of suicide increases up to 200 times.

According to a study conducted by the Center for Health Education and Disease Prevention in **Lithuania**, 35.7% of the adult population (19–64 years) and 40.7% of the elderly population (65-75 years) were overweight, and almost one in five adults and one in three elderly people were obese. [10]. According to a study coordinated by the World Health Organization (WHO) on the Childhood Obesity Surveillance Initiative (COSI), 11 percent of Lithuanian seven-year-olds were overweight, and 5 percent were obese [11]. According to prognoses for the prevalence of obesity in Europe in 2025, Lithuanian men will be among the most obese (in third place, after Ireland and the United Kingdom). The prevalence of overweight among younger Lithuanian adolescents did not change significantly in the last 15 years, but it slightly decreased in older boys and demonstrably diminished in older adolescent girls. In general, the prevalence of overweight among Lithuanian adolescents is low when compared with the prevalence in other countries [12].

According to EUROSTAT, in 2019, 2.0% of the population of **Spain** was underweight, whilst 16% being diagnosed as Obese. [13] The World Obesity Federation [14] reported that in the same year, 2019, 37.8% of the adult Spanish population (over 18 years old) were overweight, and, in terms of distribution by sex, there is a far higher incidence in males for overweight: 44.9% compared to 30.6% for females, while in obesity the difference is far lower: 16.5% for males and 15.5% for females. The researchers used the World Obesity Federation predictions for 2030 Obesity rates to compare the countries involved in Connected4Health in 3 areas [15]: 1)

Adults with Obesity by 2030, 2) Annual increase in Child Obesity 2010-2030, and 3) Global Preparedness Rankings.

It is noteworthy that Spain has the 3rd highest estimation for Adult Obesity for 2030, with a percentage of nearly 30%, and is bracketed as High by the World Obesity Federation; the only two countries with a higher estimation of prevalence are the Czech Republic and Lithuania. However, when discussing the annual increase in Child Obesity, Spain fares far better than the majority of the C4H countries and is rated as a medium while most are rated as Very High. In terms of Preparedness, Spain is well below the average in the C4H countries, faring more than 8 times worse than the most prepared country, which is Portugal, and ranks eighth out of the 183 countries studied.

In Spain, we registered a dramatic rise in recorded cases of Anorexia and Bulimia, with a rise from 14,659 cases in 2011 to 79,202 cases in 2020; a nearly 5-fold increase. [16,17]

In **Portugal**, according to the National Health Survey, in 2019 more than half of the adult population (53.6%) was overweight. Obesity reached 1,5 million people aged more than 18 years old (16.9%), with women being more affected than men (17.4% vs. 16.4%). Comparing the values of the 2019 survey with those of 2014, there was a slight increase in overweight (36.6% vs. 36.4%) and obesity trend (16.9% vs. 16.4%). More than half of the Portuguese population (56%) doesn't comply with the World Health Organization's recommendation to consume more than 400 g/day of fruit and vegetables. [18]

In the most recent COSI Portugal report (2019), 11.9% of children aged 6-8 years were obese and 29.7% were overweight. Although it is still an alarming situation that 1 in 3 children is overweight or obese, the data show a reduction of percentage points in the prevalence of overweight children since 2008, when Portugal was the second European country with the highest prevalence of children with obesity or overweight. [19]

In Portugal, data on the prevalence of Eating Disorders are scarce or are available only for small communities. In a retrospective observational study [20] that evaluated all episodes of hospitalization from 2000 to 2014 with diagnosis of ED in Portugal, there was a total of 4485 cases, where Anorexia was the most frequent (62.5%). Hospitalizations for attempted suicide were more common among patients with Bulimia (10.1% of hospitalizations) or Anorexia (5.2%).

7.3 Guides and standards

The **Romanian** nutritional recommendations are based on a dietary guide published in 2006, *Guide to Healthy Eating*, written by the Romanian Nutrition Society and supported by the Ministry of Health. [8] In 2016, within the Public Health Initiatives program, the Guide to Prevention - Healthy Lifestyle and Other Priority Preventive Interventions for Non-communicable Diseases was published in primary care. Within it, the main approaches are focused on diet and physical activity. [9] In 2021, the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" in Targu Mures, published the Community Nutrition Guide, dedicated to strategies for community preventive nutritional intervention in the life cycle, especially in childhood. [21]

Romania has developed over time a multitude of national and local programs to prevent obesity and raise awareness of the problem. From 2014-2020, the Ministry of Health had a national health strategy for preventing and fighting obesity in adults and children, financing and organizing various campaigns for the population, like *The National information month campaign on the effects of nutrition/nutrition*, a program of the Ministry of Health, carried out at the local level through the Directorates of Public Health to increase the level of knowledge of the population and to improve the lifestyle and health condition, or *The Roll and Milk Program* – is a national program initiated in 2002 through which children in primary and secondary schools receive a daily dairy product and a bakery product [21,22], *The School Fruit Scheme* – is a

national program initiated in 2008 to provide nutrition education and deliver fresh fruit to children twice a week [22,23], and *The hot meal program* - a program carried out in schools, in the process of expansion, launched in 2016 [24].

Other organizations that have implemented and/or supported national activities to reduce this pathology are The National Coalition for Combating Obesity; Romanian Forum for Obesity; Romanian Nutrition Society; Foundation for Healthy Eating; Association for Health Counseling and Education - Iasi; Lifestyle Prevention Medical Association - Bucharest; ASCOTID Mures; Romanian Dietitians Association; Romanian Association of Nutrition and Dietetics; ProNutrition Association - Targu Mures; universities in the country that have a program in Nutrition and Dietetics, etc.

The **Serbian** Handbook for Peer Education "Proper Nutrition and Eating Disorders" offers guidelines for healthy eating for two different groups of children - 2000 Kcal/day for those who are not physically active and 2300 Kcal/day for children who are physically active. [25]

The Serbian National guide to good clinical practice – obesity treatment (2022) highlights communication as one of the key factors in the successful treatment of obese patients, and adherence to an approach in which there is no discrimination/stigmatization of the obese patient.

Unlike obesity, there are no national guides or recommendations to date considering the treatment of EDs, specifically anorexia nervosa, bulimia nervosa, and BED, in Serbia. However, *Handbook for Peer Education "Proper Nutrition and Eating Disorders"* (2019) is a useful guide in recognizing problems, raising awareness, and educating of school children. It is based on peer-to-peer education and it consists of five workshops.

As part of the issue of obesity, in **Czech Republic**, it is possible to use the code for monitoring and therapy of childhood obesity as part of regular visits to general practitioners for children and adolescents. In 2021, the Czech Obesitological Society - Section of Paediatric Obesitology updated the recommendations for the therapy of childhood obesity valid until then on the IPVZ website. In cooperation with the Society of Paediatric Practitioners and the Society for Nutrition, educational materials were published that are available to parents in hospitals and cabinets.

Similar to obesity, in the case of EDs, there are recommended guidelines for psychiatric treatment published by the Psychiatric Society of the Czech Medical Association of J. E. Purkyně. [26] The therapy requires available professional differentiated care and interdisciplinary cooperation according to the degree of motivation for treatment, support of the environment, and the severity of the consequences of psychosocial and somatic consequences. PPP Info (PPP = ED) is a well-designed website providing a directory of counselling centres, sources of information for people seeking help with EDs. [27] Clients can also use the NGO E-clinic - anonymous support project. [28]

Other significant stakeholders are the professional societies Czech Obesitological Society, Society for Nutrition, National Health Institute, Healthy Nutrition Forum, Association of Nutritional Therapists, Section of Nutritional Therapists at the Association of Nurses, Section of Nutrition and Nutritional Care, Section for Eating Disorders at the Psychiatric Society and others. In addition, the Food Chamber of the Czech Republic comes into play, because it has been involved in the (un)necessary acceptance of the NutriScore. A new network of nutritional counselling centres called *Nutriadapt* is currently being created. There is also a completely independent portal with a catalogue of nutritional therapists called *vyzivovi-poradci.cz*.

In 2019-2020, the data of the "Nutrition habits, actual nutrition and physical activity habits of school-age children" study conducted by the **Lithuanian** Center for Health Education and Disease Prevention show that, every fifth child consumes unhealthy food every day (one or several times a day) products - potato, corn and other chips, other products cooked in fat, roasted, or popped.

In order to improve children's nutrition in Lithuania, various institutions cooperate, including the Health Affairs Committee of the LR Parliament, the Ministry of Health, the Ministry of Education, Science and Sports, the Ministry of Agriculture, the State Food and Veterinary Service, the Institute of Hygiene, the Center for Health Education and Disease Prevention, the Association of Lithuanian Municipalities, Public health offices of municipalities, educational institutions, the Lithuanian Parents' Forum, the Lithuanian Society of Dietitians, the Association of Dietitians, the Association of Head Chefs and Pastry Chefs, etc.

For children to better understand the meaning and benefits of a healthy diet and lifestyle, the Ministry of Health has helped the Ministry of Education and Science to develop a "General Curriculum for Health Education" in institutions implementing general education programs. It aims to ensure the successful development of children's health at school. Also, in coordination with the Ministry of Agriculture, a program to promote the consumption of fruit and vegetables and milk and milk products in children's educational institutions is being implemented in order to form healthy eating habits and improve children's nutrition. During it, fruit and vegetables, their juices, milk, and dairy products are provided free of charge to younger children in educational institutions [29].

The Mediterranean lifestyle is crucial to the **Spanish** dietary guidelines. In 2005 the Spanish Government, AESNA (Spanish Agency for the Food Security and Nutrition) set in motion the NAOS Strategy (Strategy for Nutrition, Physical Activity, and Obesity Prevention), and in 2011 the NAOS Strategy was consolidated and promoted by Law 17/2011 of July 5th on Food Security and Nutrition. The motto of the strategic campaign is "Eat Healthy and Move!" whose principal aim was to prevent overweight and obesity and contribute to lifestyle changes. The main strategic lines of action of the NAOS Strategy cover the entire life cycle, prioritizing measures aimed at children, and adolescents and with special attention to the needs of the most vulnerable socioeconomic groups. The NAOS Strategy has the Nutrition and Obesity Study Observatory, as a monitoring and follow-up system in order to control the prevalence of obesity and overweight in the Spanish population and its determining factors and to assess whether the actions carried out in this area of action are being effective.

The National Plan for Official Control of the Food Chain (PNCOCA) is the document that describes the official control systems throughout the entire food chain in Spain, from primary production to the points of sale to the final consumer. The National Nutrition Day (DNN) is celebrated on May 28 and is an initiative organized annually by the Spanish Federation of Nutrition, Food, and Dietetics Societies (FESNAD), in collaboration with the Spanish Agency for Consumer Affairs, Food Safety and Nutrition (AECOSAN), in which the importance of maintaining habits for life is recalled.

As **Portugal** is a country with Mediterranean characteristics, an adaption of the Food Wheel to the concepts of the Mediterranean Diet was developed in 2016. [30] The adaptation allows an approximation of the Portuguese food guide to the principle of the Mediterranean diet, which enriched the guide and strengthened this food education tool. The *Brief Counseling Manual for Healthy Eating in Primary Health Care* ("Manual Aconselhamento Breve para a Alimentação Saudável nos Cuidados de Saúde Primária") [31] and the respective support tools: *Guide with 10 steps to healthy eating* ("Guia com os 10 passos para uma alimentação saudável") [32] help to standardize the clinical approach and systematize food recommendations, optimizing the appointment time.

Obesity: optimization of the therapeutic approach in the national health service ("Obesidade: Otimização da abordagem terapêutica no Serviço Nacional de Saúde") comes to contextualize the best nutritional therapy strategies for obesity, based on the most recent scientific evidence, and on the specificities: energy density, meal patterns, intake speed, and physical activity, for obesity treatment. [33] About Eating Disorders, Portugal doesn't present specific guidelines, following international recommendations.

7.4 Conclusion

We have seen that obesity in **Serbia** is on the rise, especially among children, and that the predictions for 2030 are for an increase of 1.7% for adults and 4.5% for children. We can conclude that even though a lot has been done in the research and the standardization of the medical approach towards obesity and the promotion of healthy eating, there is still a lot to be done at the national and local levels, especially in the field of EDs.

As indicated above, the number of young people suffering from obesity or EDs in the **Czech Republic** is on the rise. The numbers referring to weight problems vary slightly according to the methodology used, but the statistics in general indicate an increasing trend over the past few years. If motivated, people with weight problems can receive good support from a large number of resources funded by the government and operating on national levels.

In recent years, significant positive changes have been observed in the organization of children's nutrition. In **Lithuania**, a legal framework for better nutrition for children's health has been created. The main national legal acts - the Food Law of the Republic of Lithuania, the Law on Public Health Care, and the Law on Social Support for Pupils - regulate children's nutrition and food safety. There are also strong initiatives by non-governmental organizations.

Even though **Spain** like many other countries around the world has been implementing a multitude of national and local programmes to try to combat obesity such as the NAOS strategy created by the Government of Spain and other local and private initiatives, the incidence of obesity is still increasing in all age groups. This is made more paradoxical by the fact that Spain traditionally has had a Mediterranean Diet that has been proven to be effective in terms of preventing obesity-related diseases.

In **Portugal**, more than half of the adult population has overweight and obese. An unbalanced lifestyle is at the core of these numbers: inadequate eating habits, physical inactivity, improper stress, sleep, and social adaptation management. When analyzing childhood obesity, all Portuguese regions showed a decrease in the prevalence of overweight (including obesity) since 2008, although it's still an alarming situation. It's believed that this positive trend is the increase in proper food policy and outstanding national programs implemented in recent years.

Although **Romania** has a large number of local and national projects focused on obesity prevention, health education, and increasing the quality of life, according to statistics the incidence of obesity is still increasing in all age groups.

Regarding all data and nutritional community interventions mentioned above, both obesity and eating disorders are complex diseases, with multifactorial conditions, constantly increasing in frequency, and the approach for their prevention and treatment must include multidisciplinary activity networks, individualized diets, psychological counseling, continuous monitoring, behavioral therapy, effective communication, and especially, compassion.

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