

PR2.F – Case study - Anorexia

Case description

- A 14-year-old female patient presents accompanied by her parents to a psychiatric and dietetic consultation due to a progressive and constant weight loss of 19 kg over 9 months, with amenorrhea, intense and long-lasting physical activity
- Parents reported a gradual reduction in food intake over the past year, with severe restriction of high-calories or sweets
- The patient was diagnosed with anorexia nervosa and psychiatric treatment was initiated, with home monitoring following the parents' refusal to admit her
- A multidisciplinary intervention was initiated with psychiatric, dietary, family monitoring, and cognitive-behavioral therapy
- Following a food diary submitted by the family, an average caloric intake of 670 kcal/day was identified, with 34 grams of protein, 82 grams of carbohydrates and 21 grams of lipids - although the seriousness of the situation and the associated risks are explained to them, the family members vehemently refuse hospitalization

Questions

Using the information provided, determine:

- the patient's anthropometric status in relation to age
- the energy requirement to maintain the current weight
- nutritional requirements (calories and macronutrients) for weight rebalancing
- basic recommendations for physical activity
- short-term expectations (4 weeks)
- dietary approach if the set goal is not reached
- long-term expectations (2 years)



Example of a dietary approach to the presented case

Anthropometric and nutritional assessment

14y 1m (169 months), female					
	Value	Imperial	%ile	Z-score	50%ile
Weight (kg)	21	46.3 lb	0%	-7.69	49.6
Stature (cm)	149	58.7 in	4%	-1.76	161
Wt-for-stature (kg)					
BMI-for-age	9.5		0%	-10.35	19.4

Estimated Daily Caloric Needs	2,228 kcal/day
-------------------------------	----------------

Macronutrients:

Macronutrient	Recommended Intake Per Day
Carbohydrate	251 - 362 grams ⓘ
Total Fiber	26 grams
Protein	18 grams
Fat	62 - 87 grams ⓘ
Saturated fatty acids	As low as possible while consuming a nutritionally adequate diet.
Trans fatty acids	As low as possible while consuming a nutritionally adequate diet.
α-Linolenic Acid	1.1 grams ⓘ
Linoleic Acid	11 grams ⓘ
Dietary Cholesterol	As low as possible while consuming a nutritionally adequate diet.
Total Water	2.3 liters (about 10 cups) ⓘ

Establishing nutritional requirements

A food plan was initiated with 1000 kcal for a period of 1 week, with a gradual increase of 100 kcal/week until reaching an intake of 2000 kcal/day, with the possibility of modification according to evolution

	At initiation	6 weeks interval	12 weeks interval
Proteins (g)	49	78	83
Lipids (g)	26	43	64
Carbohydrates (g)	135	214	258
Calories	1000	1600	2000

- A food plan consisting of 5 solid meals and 2 high-protein snacks/day, based on low-volume food supplements, was implemented
- We recommended a reduction in physical activity to 45-60 minutes/day, 3-4 days a week

Re-evaluation at four-week interval

14y 2m (170 months), female					
	Value	Imperial	%ile	Z-score	50%ile
Weight (kg)	22.4	49.4 lb	0%	-6.99	49.9
Stature (cm)	149	58.7 in	4%	-1.79	161
Wt-for-stature (kg)					
BMI-for-age	10.1		0%	-8.87	19.4

Estimated Daily Caloric Needs	1,840 kcal/day
-------------------------------	----------------

Macronutrients:

Macronutrient	Recommended Intake Per Day
Carbohydrate	207 - 299 grams ⓘ
Total Fiber	26 grams
Protein	19 grams
Fat	51 - 72 grams ⓘ
Saturated fatty acids	As low as possible while consuming a nutritionally adequate diet.
Trans fatty acids	As low as possible while consuming a nutritionally adequate diet.
α-Linolenic Acid	1.1 grams ⓘ
Linoleic Acid	11 grams ⓘ
Dietary Cholesterol	As low as possible while consuming a nutritionally adequate diet.
Total Water	2.3 liters (about 10 cups) ⓘ

- Continued with a 1500 kcal food plan, with a gradual increase to 1800 kcal/day



Project Number: 2021-1-RO01- KA220-HED-38B739A3

- Following the reassessment, a positive, slow weight evolution was observed
- The patient managed to ensure her established caloric needs on most days, but with a feeling of guilt
- The diet was based on liquids and semi-solids, served under parental supervision
- The transition was made to 3 main meals and 3 high-calorie/high-protein snacks based on dietary supplements
- Weight evolution was positive but slow
- Psychiatric development was improved
- The patient was unable to exceed a caloric intake of 1400-1500 kcal/day. It was recommended to increase the number of meals (on the principle of small and frequent meals), with 4 low-volume high-calorie/high-protein snacks, 2 of them served during the night

14y 6m (174 months), female					
	Value	Imperial	%ile	Z-score	50%ile
Weight (kg)	27.3	60.2 lb	0%	-5.07	50.8
Stature (cm)	150	59.1 in	4%	-1.73	161
Wt-for-stature (kg)					
BMI-for-age	12.1		0%	-5.4	19.6

Weight evolution after personalized dietary intervention at about two years

14y 1m (169 months), female					
	Value	Imperial	%ile	Z-score	50%ile
Weight (kg)	21	46.3 lb	0%	-7.69	49.6
Stature (cm)	149	58.7 in	4%	-1.76	161
Wt-for-stature (kg)					
BMI-for-age	9.5		0%	-10.35	19.4



- The patient's condition was considerably improved
- Drug treatment, therapy, and dietary intervention continued

16y 3m (195 months), female					
	Value	Imperial	%ile	Z-score	50%ile
Weight (kg)	44.1	97.2 lb	7%	-1.49	54.2
Stature (cm)	156	61.4 in	15%	-1.03	163
Wt-for-stature (kg)					
BMI-for-age	18.1		16%	-0.98	20.6