

Personalized diet in obesity: a quasi-experimental study on fat mass and fat free mass changes.

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Table S1. Learning process for adaptation to dietary intervention (adapted from Reig 2015) [37].

Pre-Initiation period	
This methodology is based on a dynamic learning process in which it is advisable to schedule several consultations ≥ 2 per month (30 minutes/consultation approx.). The methodology differentiates three periods: initiation, improvement, and maintenance [37]. The length of each period depends on the magnitude of changes in body weight and fat (changes that will correct metabolic alterations) [8,13,37]	
Procedures developed at the dietician office	Tools for monitoring the intervention
<p><i>First consultation</i> [37] (p. 2023)</p> <p>The following procedures were performed:</p> <ol style="list-style-type: none"> i. To explain the treatment. ii. To measure weight, body fat, blood pressure, biochemical markers and to analyse the results. iii. To recommend the record of relevant data from dietary survey. 	<p>Nutritional history [38] (pp. 131-34)</p> <p>Dietary survey [38,39] (p. 137).</p>
Initiation period [37] (p. 2023)	
The length of this period depends on the degree of excess weight of:	
<ol style="list-style-type: none"> i. Overweight (equivalent to high fat level): the goal is to achieve a change in weight and body fat that helps to reach the healthy level of fat and BMI. ii. Obesity (equivalent to the highest level of fat): the goal is to achieve 5% change in weight and body fat. 	
Procedures developed at the dietician office [37] (p. 2023)	Tools for monitoring the intervention
<p><i>Second consultation and initiation of the intervention</i></p> <p>The following procedures were performed:</p> <ol style="list-style-type: none"> i. To measure weight, body fat, and blood pressure. 	<p>Dietary survey [38,39] (p. 137).</p> <p>Personalized diet [38] (pp. 145-147)</p> <p>Recommendations for the initiation of the method [38] (pp. 148-150)</p>

ii. To make agreements with subjects on the objectives (realistic and achievable) to be achieved in short periods (1-2 weeks).

Until the end of the period of initiation

The following procedures were performed:

- i. To measure weight, body fat, and blood pressure.
- ii. To monitor the achievement of short-term (1-2 weeks) and medium-term (1-3 months) objectives.
- iii. To analyse if learning towards healthier eating habits occurs.

Dietary survey [38,39] (p. 137).

Personalized diet [38] (pp. 145-147)

Improvement period [37] (p. 2023)

The length of this period depends on the degree of excess weight of:

- i. Overweight: the goal is to achieve a 5% change in weight and body fat from the beginning of the intervention.
- ii. Obesity: the goal is to achieve a change of 10% from the beginning of the intervention (a greater change is recommended as the higher the degree of excess weight and body fat is).

In this period, subjects must learn to remove not appropriate behaviours like the following: lack of male interest towards diet; unhealthy diet; lack of time to plan the grocery shopping, preparation, and cooking of healthy food; lack of facilities to store, prepare, and cook healthy food or limited knowledge, skills, and motivation for the incorporation of healthy habits [12]

Procedures developed at the dietician office [37] (p. 2023)

The following procedures were performed:

- i. To analyse changes in weight, body fat, blood pressure and biochemical markers, if necessary.
- ii. To observe the ability to communicate the difficulties that have arisen and how faced them.
- iii. To ask if physical activity was performed and the average number of hours of sleep per day.
- iv. To monitor the achievement of short-term (1-2 weeks), medium-term (1-3 months) and long-term (1 year) objectives.

Tools for monitoring the intervention

Dietary survey [38,39] (p. 137).

Personalized diet [38] (pp. 145-147)

Maintenance period [37] (p. 2023)

The length of this period depends on the degree of excess weight of:

- i. Overweight or healthy weight: it is recommended to attend the consultation every 3 or 6 months.
- ii. Obesity: in this case, the following situations could be found:

- a. The degree of obesity has not decreased, but a change of 10% of weight and body fat has been achieved. Consequently, it is recommended to attend the consultation every 1 or 2 months.
- b. Changes in weight and body fat allow to reach the degree of overweight. Thus, it is recommended to attend the consultation every 3 or 6 months;
- c. healthy weight and healthy fat are achieved. Consequently, it is recommended to attend the consultation every 6 months.

Subjects should have learned the essential rules to keep weight and body fat under control over time.

Procedures developed at the dietician office [37] (p. 2023)

Tools for monitoring the intervention

The following procedures were carried out:

- i. To observe changes in weight, body fat, blood pressure and biochemical markers, if necessary.
- ii. To strengthen the balance between Monday to Friday intakes in a more stringent way compared to weekend intakes (little more energetic meals could be ingested).
- iii. To reinforce the idea that the physical activity done so far should not be abandoned.
- iv. To monitor the achievement of medium-term (1-3 months) and long-term (1-2 years) objectives.

Dietary survey [38,39] (p. 137).

Personalized diet [38] (pp. 145-147)
