

## Food Situation in Cádiz. Overweight and Obesity

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The economic and social development in Cádiz has improved accessibility to healthier food and has contributed to an increase in the quality of life of the population. However, at the same time, the incidence and prevalence of overweight and obesity has increased both in childhood and in the adult population, constituting a serious problem for Public Health. Lifestyles such as sedentary lifestyle or nutritional habits influence the development of these pathologies, being able to highlight the important influence of social inequalities that have been increasing in recent years. There are large differences in quality and in life expectancy between different socioeconomic groups. Thus, obesity and its risk factors are more frequent among the population with a lower cultural level, coexisting in the most disadvantaged areas.

By assessing the eating habits in our city we can establish two broad groups.

## Eating habits in child-youth population. Childhood overweight and obesity

According to the dietary recommendations of the Spanish Society of Community Nutrition (SENC), schoolchildren in Cádiz, according to a study carried out by the Public Health Area of the University of Cádiz, have low consumption of vegetables: 16.7%, cereals: 8.1 %, fruits: 11.9%, sweets: 18.1%, sugary drinks: 35.4%; the consumption of meat and fish is adequate in 50% of the child and youth population; more than 75% of the population follow the dairy consumption recommendations, and they have an excessive consumption of sugars.

The quality of the Mediterranean diet measured by the Kidmed test showed in studies in the adolescent school population of Cádiz how it decreases with age, being less in women. The quality of the diet is directly related to the level of studies and work occupation of both the father and the mother.

Other eating habits to highlight are eating five meals a day, eating breakfast or not, and snacking. In our city, 52.9% of the child-adolescent population eats 5 meals a day, 93% eat breakfast and 65.3% "do not snack".

In relation to overweight and obesity, a study carried out by the College of Pharmacists of the province of Cádiz has obtained a prevalence of excess weight (overweight plus obesity) of 29.67% and of obesity of 13.73 %. The prevalence is higher in boys than in girls, both in excess of weight (33.11% vs 25.95%) and obesity (16.73% vs 10.49%).

It is worth highlighting the difference in prevalence depending on the area of Cádiz studied, a fact that is collected in the following table 1.

The monitoring of sedentary behaviors is very high 56.8%.

Cadi		
1	Under weight	0,5376
128	Standard Weight	68,817
35	Obesity	18,817
22	Overweight	11,828
186	Percentiles >85	30,645
Ca		
139	Standard Weight	62,333
40	Obesity	18,779
34	Overweight	15.962
74	Percentiles > 85	34,741
Ca		
1	Under weight	0,621
115	Standard Weight	71.428
14	Obesity	8.695
31	Overweight	19.254
45	Percentiles > 85	27.950

In this group, the consumption of vegetables is 2%, cereals 8.1%, and fruits 20.4%; the consumption of meat and fish is adequate in approximately 50% of the child and youth population; the consumption of dairy is quantitatively correct and the consumption of sugars is excessive.

It is estimated that 40% of overweight and obese children eat all five meals compared to 58% of children with normal weight, and it is more common in these children to skip breakfast and snack between meals.

Regarding the educational and socioeconomic level of the parents and their relationship with childhood overweight and obesity and the previously mentioned lifestyles, there is a significant progressive decrease in the percentage of children with Overweight, Obesity and Weight Overload the higher the educational level and labor has the father and the mother.

There is greater compliance with the recommendations for physical activity, less sedentary lifestyle and better eating habits in the children of fathers and mothers the higher the educational and work level.

## Eating habits in the adult population

Among our adults, the recommended consumption of fruit and vegetables is only reached in 53.8% and 21.5% of the population, and only one in three adults consumes meat and fish three times a week. On the contrary, almost two thirds of them exceed the intake of fats/sausages and 48% that of sugars.

Comparing our values with those published by the EAS for the whole of Andalusia, the consumption of dairy products, fruit and vegetables is lower than the regional average, where consumption is referred to at least three times a week of 93.6%, 78.9 % and 67% respectively, adapting the older people their diet to the established recommendations. The differences in food consumption are closely related to the socioeconomic and educational level of the population.

In relation to overweight and obesity, the prevalence reached is 49.5%, being higher in men. If we study the prevalence of overweight and obesity in adults in relation to family socioeconomic level, in our city we observe that both prevalences grow significantly as the level of family income decreases. In this way, among the most extreme income levels, the prevalence of obesity almost triples in lower-income adults.

The social gradient increases when the highest educational level in the couple is considered; Adults without studies are 44.8% overweight and 33.6% obese, multiplying up to four times the obesity presented by university adults.

The lifestyles marked by the practice of greater physical activity and adequate consumption of food according to the recommendations established in the SENC will also be different depending on the socioeconomic and educational level of the population, as can be seen in the following table 2 and 3.

Food consumption as recommended		Family eco			
	< 999 euros	1000 - 1499 euros	1500 - 2499 euros	> 2500 euros	Statistical significance level
Dairy (Daily)	190 (80,2%)	187 (83,1%)	242 (81,8%)	49 (80,3%)	p = 0,865
Fresh fruit (Daily)	130 (54,9%)	127 (56,4%)	162 (54,7%)	39 (63,9%)	p = 0,729
Vegetables/vegetables (Daily)	41 (17,3%)	46 (20,4%)	61 (20,6%)	18 (29,5%)	p = 0,209
Vegetables (2 o tos in/ without))	55 (23,2%)	49 (21,8%)	58 (19,6%)	5 (8,2%)	p = 0,068
Fish (al minus 3/sem)	76 (32,1%)	88 (39,1%)	94 (31,8%)	16 (26,2%)	p = 0,154
Meat (al minus 3/sem)	41 (17,3%)	53 (23,6%)	71 (24,0%)	13 (21,3%)	p = 0,254
Sweet (2 3 <sup>rd</sup> less/wi- thout)	124 (52,3%)	85 (37,8%)	82 (27,7%)	20 (32,8%)	p = 0,000
Sausages (Less than 1/ sem)	160 (67,5%)	142 (63,1%)	159 (53,7%)	44 (72,1%)	p = 0,012

	Level of studies in the couple				
	No studies	Primary studies	Secondary studies	University studies.	
Dairy (daily)	94 (75,8%)	147 (77,8%)	441 (86,0%)	118 (85,5%)	p = 0,007
Fresh fruit (daily)	64 (51,6%)	86 (45,5%)	280 (54,6%)	89 (64,5%)	p = 0,041
Vegetables/vegetables (daily)	21 (16,9%)	26 (13,8%)	113 (22,0%)	47 (34,1%)	p = 0,000
Vegetables (2 or more/sem)	40 (32,3%)	37 (19,6%)	91 (17,7%)	37 (26,8%)	p = 0,001
Fish (al minus 3/sem)	44 (35,5%)	57 (30,2%)	174 (33,9%)	51 (37,0%)	p = 0,595
Meat (al minus 3/sem)	26 (21,0%)	32 (16,9%)	120 (23,4%)	52 (37,7%)	p = 0,000
Sweet (2 3 <sup>rd</sup> less/no)	90 (72,6%)	126 (66,7%)	297 (57,9%)	86 (62,3%)	p = 0,027
Sausages (Less than 1/sem)	68 (54,8%)	72 (38,1%)	164 (32,0%)	56 (40,6%)	p = 0,001

However, in order to act in a positive way in the face of the problems previously detected in our city, we have the following action resources:

- PIOBIN: Comprehensive Plan for Childhood Obesity. It is a strategic line of action in which we work directly on children and adolescents from 6 to 14 years old, with problems of overweight and/or obesity. In the Bahía Cádiz-La Janda district, advanced intervention targets of 3.92% are being achieved for groups and 10.95% for individual ones.
- Children's health monitoring PROGRAM (PSI) includes ages 0 to 4 years. A fundamental section is infant feeding. In these consultations, the promotion and support of breastfeeding, introduction of food into the infant diet, detection of children with nutritional risk, and implementation of the necessary corrective feeding guidelines, always based on the Mediterranean diet, is carried out.
- Within the framework of the educational community, programs are being carried out within the NAOS strategy (nutrition, physical activity and obesity prevention) such as the PERSEO program (Reference School Pilot Program for Health and Exercise against Obesity) at the national level and the network of HEALTHY DINING ROOMS (Ministry of Health and Social Welfare, the Ministry of Education and the Andalusian Society of Clinical Nutrition and Dietetics (SANCYD) in Andalusia, the PASE program (healthy eating program at school), directed directly to the students.
- Young form: Among other aspects, in the area of healthy lifestyles the promotion of a balanced diet and physical activity is proposed.
  - For one million steps: By practicing group walks, a total of at least one million steps is reached in a month through the contributions of all participants.
- Dietary council in primary care: It is a strategic line of action on diet and lifestyle aimed at the adult population with or without problems of chronic diseases. The objective is to reduce health problems related to inadequate nutrition and lack of physical activity in the reference population, promoting the practice of physical activity and balanced eating habits from each Primary Care Center.
- It is very important to act on the educational and socioeconomic level of our population, since, as has been detected, it constitutes one of the fundamental pillars in the presence of correct lifestyles.

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