



Individual outpatient care *versus* group education programs. Which leads to greater change in dietary and physical activity habits for obese children?

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Abstract

Objective: To compare two strategies for childhood obesity management: ambulatory assistance (individual) and educational program (in group).

Method: Children and adolescents from 7 to 13 years of age were selected at random. They were divided into two groups: individually assisted or assisted in groups. An educational program about childhood obesity was created, with monthly meetings that consisted of lectures with parents' participation and group work. Simultaneously, children and teenagers of the other group received individual ambulatory assistance. The program took place for six months. Body complexion, eating habits and physical activities were assessed before and after interventions.

Results: The sample comprised 38 children and adolescents whose mean age was 9.9 years old. The program was more effective in increasing physical activity ($p=0.003$), specially walking ($p = 0.003$), as well as in reducing total cholesterol ($p = 0.038$). Reduction of body mass index, obesity index and caloric intake was similar in both groups. As for food habits, ambulatory assistance increased the intake of fruits ($p = 0.033$) and vegetables ($p = 0.002$) and reduced the amount of French fries and crisps ($p = 0.041$), while children participating in the program reduced the intake of soft drinks ($p = 0.022$), sandwiches, pizza and fast food ($p = 0.006$).

Conclusions: Both strategies for handling childhood obesity were favorable to changes in food and physical activity habits. Group assistance was as effective as the individual assistance, consolidating as an alternative for the obesity treatment.

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Introduction

Obesity is a complex and multifaceted trait involving the interaction of metabolic, physiological, behavioral and social influences. Inappropriate dietary habits and a sedentary lifestyle can be listed among environmental factors.

Freedman et al. demonstrated the tendency of gaining weight among children over a twenty-year period, which makes the need for intervention clear.¹²⁻⁴⁵ The national prevalence of overweight found by the National Demographic and Health Census (*Pesquisa Nacional sobre Demografia e Saúde*) in 1996 was 13.9% for children and adolescents from 6 to 18 years of age. The increase in overweight and obesity is being observed worldwide, a fact studied by Wang et al. who compared results from several countries for recent decades.²²⁻⁵⁴

Excess weight and obesity are important public health concerns, in particular because of the association with increased risk for systemic arterial hypertension, abnormal lipid levels, diabetes mellitus and coronary disease.³⁻⁵ Obesity is at once a common and complex clinical problem, a significant source of frustration for health professionals and their patients and, most significantly, a huge therapeutic challenge.⁶

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Obesity treatment and prevention centers, especially for children, are rare. The pediatrician's responsibility for the prevention and treatment of obesity is enormous since prevention involves health dietary habits right from the first year of life, and treatment implies management of the family and an absence of approved drugs. All obesity management should be based on promoting the restriction or loss of weight, treatment of comorbidity and prevention of future weight gain.^{7,8}

There is no doubt that reducing calorie intake and increasing physical activity are strategies that result in weight reduction.^{9,10} Treating childhood obesity, however, is not an easy task. Inappropriate habits, present in the family environment, are a central point in the therapeutic approach.¹¹

Innovative educational programs have been developed, planned to increase children's knowledge about nutrition and health and to have a positive influence on the quality of their diet and their level of physical activity.¹²⁻¹⁴ Studies of the effectiveness of these programs, however, remain scarce. Nevertheless, everything points to strategies aimed at reducing habitual inactivity being useful.¹⁵ The treatments in use within these programs vary greatly and include: intervention with groups or individuals, with or without medical supervision, involving or not family, behavior or cognitive therapy and with or without pharmacological prescriptions. These, therefore, are aspects that can be considered important until consensus is reached on effectiveness.¹⁶ Programs that have been described are developed with continuous and intense treatment, requiring some type of incentive for individuals to take part weekly or even several times a week, which curtails their applicability on practice.^{17,18}

In the scope of aspects highlighted by Barlow & Dietz,¹⁹ obesity treatment should aim at changes in behavior. They recommend that programs should achieve permanent changes and not rely on short-term dieting or exercise programs aimed at rapid weight loss. Management should help families to achieve small and gradual changes.

Faced with a problem of such magnitude, the development of wider-reaching, effective strategies that can be useful in impeding an even greater increase in observed obesity indices are necessary. The objective of this study was, therefore, to compare the results of a childhood obesity education program (which could be performed by any health professional) with individual outpatient treatment for childhood obesity management in terms of changes in dietary habits and levels of physical activity.

Methods

A randomized clinical trial was performed involving children and adolescents from 7 to 13 years of age uncompleted of both sexes and were both resident and born in the state of Rio Grande do Sul and who sought out the Pediatrics Service at the *Hospital de Clínicas de Porto Alegre* in response to advertisements in high-circulation newspapers. Inclusion criteria were body mass index (BMI)

indicative of obesity, according to Cole *et al.*,²⁰ ability to attend eight times monthly in the company of parents and/or guardians residing in the same house. Children suffering from chronic disease were excluded (defined as those children requiring continuous therapy) as were patients with mental or psychological disease that would interfere with understanding and any whose guardians refused to sign the Informed Consent Form. The project was approved by the Committee for Ethics and Research at the *Hospital de Clínicas de Porto Alegre*.

All individuals who responded to the request had the study explained to them – childhood obesity management – without specifying the two types of treatment: individual outpatient treatment and childhood obesity education program in groups. The subjects were then allocated to one of two groups by lottery until the stipulated sample size was attained.

At the first appointment all subjects underwent a physical assessment and were interviewed about their physical activity and dietary intake habits. At the last appointment, after six months on the programs, all of the children and adolescents were once more assessed and interviewed. All research assistants had been previously trained to apply the questionnaires. Body composition was evaluated by the same, previously prepared, research assistant. The research instruments had been previously applied, by the head researcher, to 25 children and adolescents from the age group in question, in order to test their validity.

The individual outpatient treatment took place at the pediatric nutritional support clinic that already existed at the *Hospital de Clínicas de Porto Alegre* and under the supervision of the head researcher. These children and adolescents attended once monthly when they were weighed and measured and received guidance on nutritional intake management and on increasing physical activity. Each subject was given a manual dealing with the main features of the treatment and in which directions were noted. Individually, they attended clinical visits with one of the three research assistants previously prepared in terms of the treatment modality and who were at liberty to discuss with the head of the clinic whenever necessary.

The educational program comprised monthly meetings with a 45-minute lecture. Each lesson was given by one of the research assistants, previously instructed as to the posture and method of delivery. The lessons were prepared by the research assistant together with the head researcher and used a practical approach. After the lesson the children and adolescents were divided by sex and age into four fixed groups and performed tailored activities under the supervision of the same research assistant. Activities were a review of the lesson and of the commitments made at the previous meeting, a task related to the subject-matter of the lesson, planning the objectives for the coming month and free activity. Parents and/or guardians were put into groups in order to discuss their problems and techniques for changing feeding habits with each other, the research assistant and the head researcher. The program comprised six meetings – in addition to the first and last consultations at which the

assessment instruments were administered. The subjects covered were: what obesity is and what its complications are, foodstuffs and the food guide pyramid, food substitutes and modes of preparation, how to be more active, and behavioral, postural and self-esteem related aspects and how to maintain the healthy habits that had been suggested.

The physical assessment was performed in order to classify sexual maturity and in order to obtain an anthropometric assessment: weight, stature, BMI and obesity index (OI, current weight/expected weight for the 50th percentile/current height/expected height for the 50th percentile $\times 100$).²¹

The questionnaire on physical activity was given to children and parents and/or guardians. Existing questionnaires were adapted for children and adolescents, to account for age and nationality.^{22,23} Brief descriptions were used to analyze aspects of sports practiced.

Dietary habits were evaluated by recording the child's food intake (over 24 hours) on the day before the consultation, listing foods, type of preparation and quantities ingested.²⁴ Additionally, the children's general dietary habits in terms of their intake of certain foods were recorded. These were milk, meat, fruit, vegetables, bread, candies, sandwiches, burgers, biscuits and cookies, crisps, fried potatoes, pizza and others. This method aims to quantify the consumption of foodstuffs over a certain period. In this case the frequency employed was monthly.²⁵ In preparation for this task the portion sizes of the foods in question were defined and photographed for greater precision. Both types of record are subject to failures, but together they complement each other.²⁵⁻²⁷ In order to calculate the children/adolescents' calorie intake, the standard software used to calculate dietary requirements at the Dietary and Nutritional Service at the *Hospital de Clínicas de Porto Alegre* was employed. Relative intake proportions were calculated from the difference between expected and actual consumption based on age and sex.

Initially, the behavior of individual base and final variables was assessed for the two groups. Quantitative variables were analyzed using Student's *t* test. When the test's basic assumptions were not met the Mann-Whitney and Wilcoxon non-parametric tests were employed. Next, the primary outcomes were assessed with adjustments for the base variables using covariate analysis. Qualitative variables were analyzed using Fisher's exact test and before-and-after comparisons were made using the McNemar test. In order to test for differences in efficacy between the two interventions (individual outpatient treatment and educational program in groups) a comparison was made between the incidence of positive outcomes for each group by means of a relative risk calculation, taking the individual outpatient treatment subset as the base reference. When variables were shown to have statistical significance ($p < 0.05$) the number needing treatment (NNT) was also calculated. For this purpose the variables were analyzed in a dichotomous manner, with positive outcomes being defined as: reduction in BMI, OI, total cholesterol, triglycerides, HDL-cholesterol fraction, caloric intake and increase in

sporting activity. If initial values were maintained with no worsening, this was also defined as a positive outcome. Significance was set at 5% when analyzing the results.²⁸⁻³¹

Results

Of the 66 children and adolescents who had originally responded, 28 (14 per group) did not get further than the second consultation because of: problems preventing parents and/or guardians from attending, children and adolescents' lack of commitment to what had been set, misunderstanding that the proposal would be something that was more "magical" and/or because parents were unwilling to change their habits. When the demographic characteristics and BMI of those that dropped out were compared with the 38 who remained, no significant differences were identified.

The children and adolescents under study had an average age of 9.9 ± 1.5 (7.6-12.5) years and 57.9% (22) of them were male. According to the data recorded during the interviews, 28.9% (11) had no siblings, 57.9% came from families with a family income of up to six times the national minimum wage, 50% (19) had already tried dieting to slim and 71.1% (27) had at least one obese family member, with 39.5% (15) of the parents being obese.

When the two study groups were compared – individual treatment and program – with respect of the base variables, no differences were observed in terms of age, sex, family obesity, previous dieting, BMI, OI, cholesterol, triglycerides, regular soccer playing, watching television and playing video games, feeling like a sedentary person, considering their own nutrition unhealthy and eating between meals ($p > 0.05$). The individual treatment group had greater frequency of general sporting activity ($p = 0.027$), sport at the weekend ($p = 0.022$) and going for walks ($p = 0.004$).

After the intervention, an analysis of the subjects in the individual outpatient subset found that habitual inactivity had been reduced ($p = 0.046$). All other variables had remained stable or improved, but by less than the margin of statistical significance (Table 1).

Individuals in the program subset were found to have increased their sporting activity ($p = 0.004$), frequency of going for walks ($p = 0.019$) and weekend activities ($p = 0.033$). There were reductions in OI ($p = 0.038$) and total cholesterol ($p = 0.003$). Tendencies were also observed towards increases in time spent playing soccer ($p = 0.068$) and in the high-density lipid fraction of cholesterol ($p = 0.060$) and towards a reduction in habitual inactivity ($p = 0.052$). Values for BMI, triglycerides, self-assessed unhealthy diet and snacking between meals all had percentage reductions, although without attaining statistical significance ($p > 0.05$). All remaining variables had remained stable (Table 1).

When these changes were compared by allocation group (Table 1) it was found that the program subset had a significantly greater increase in physical activity ($p = 0.003$) and in going for walks ($p = 0.003$). It was also observed that this group exhibited a tendency towards a greater increase in playing soccer ($p = 0.068$) and

weekend physical activity ($p = 0.059$). The individual outpatient treatment group reported feeling less sedentary ($p = 0.008$) and indicated a tendency towards a greater reduction in snacking between meals ($p = 0.058$). No statistical differences were observed for the remaining variables ($p > 0.05$).

Comparing the incidence of the dichotomous outcomes (Table 2), it was found that the program group exhibited effects of a similar magnitude to those produced by individual care (outpatients group), with the exception of the reduction in cholesterolemia, which was significantly better. The educational program was 42.5% more effective at reducing total cholesterol levels. When an absolute risk reduction (ARR) calculation was performed, an estimated 73 out of

every 100 children and adolescents on the program would exhibit a reduction in total cholesterol (ARR = 72.25/100 children and adolescents) with the result that for every two subjects enrolled on the program, one would reduce their total cholesterol within 6 months (NNT = 1.38). The remaining variables did not reveal any further differences between the two interventions.

At the start of the study the nutritional intake – estimated using a frequency analysis – was similar for the two groups. After the intervention it was found that the consumption of fruit ($p = 0.033$) and vegetables ($p = 0.002$) had increased significantly in the individual treatment group. In this same group the patients were eating less beans ($p = 0.010$) and crisps + fried potatoes (0.024). In the program group

Table 1 - Comparison between the individual outpatient treatment group (OG) and the program group (PG) from the beginning to the end of the study

	OG (n = 18)			PG (n = 20)			OG vs. PG
	Before	After	p	Before	After	p	p
Sporting activity (yes)	44.4% (8)	66.7% (12)	0.206 *	10% (2)	60% (12)	0.004 *	0.003 †
Soccer playing							
Never	38.9% (7)	38.9% (7)	0.262 *	35% (7)	15% (3)	0.068 *	0.068 †
Sometimes	16.7% (3)	22.2% (4)		45% (9)	25% (5)		
Always	44.4% (8)	38.9% (7)		20% (4)	60% (12)		
Going for walks							
Never	27.8% (5)	11.1% (2)	0.262 *	75% (15)	30% (6)	0.019 *	0.003 †
Sometimes	16.7% (3)	5.6% (1)		15% (3)	10% (2)		
Always	55.6% (10)	83.3% (15)		10% (2)	60% (12)		
Weekend physical activity (yes)	72.2% (13)	72.2% (13)	1.000 †	30% (6)	70% (14)	0.033 †	0.059 †
Watching TV							
Never	0	0	-	0	0	-	-
Sometimes	0	5.6% (1)	-	0	10% (2)	-	-
Always	100% (18)	94.4% (17)	-	100% (20)	90% (18)	-	-
Feeling sedentary (yes)	44.4% (8)	22.2% (4)	0.046 †	65% (13)	30% (6)	0.052 †	0.008 †
BMI (kg/m²)	28.9±3.7	28.8±4.3	0.898 ‡	29.0±3.5	28.4±3.7	0.204 ‡	0.47 §
OI (%)	185.3±27.2	182.3±28.5	0.586 ‡	180.9±29.1	175.0±27.5	0.038 ‡	0.56 §
Total cholesterol (mg/dl)	169.3±52.3	161.1±35.2	0.233 ‡	190.6±28.6	173.2±29.9	0.003 ‡	0.887 §
HDL-cholesterol (mg/dl)	43.3±9.2	45.2±7.3	0.268 ‡	50.7±13.4	44.8±9.8	0.060 ‡	0.258 §
Triglycerides (mg/dl)	101.8±52.2	101.0±52.6	0.942 ‡	114.9±55.6	105.2±34.2	0.421 ‡	0.913 §
Caloric intake (%)	20.1±18.4	19.4±17.8	0.921 ‡	25.7±18.6	28.3±19.2	0.526 ‡	0.17 §
Self-assessed diet							
Great	27.8% (5)	33.3% (6)	0.172 †	5% (5)	25% (5)	-	0.172 †
Good	55.6% (10)	61.1% (11)		70% (14)	75% (15)		
Poor	16.7% (3)	5.6% (1)		25% (5)	0		
Snacking between meals (yes)	77.6% (14)	44.4% (8)	0.058 †	80% (16)	60% (12)	0.206 †	0.058 †

Data expressed as mean±SD (minimum-maximum) or percentage and absolute figures.

BMI = body mass index; OI = obesity index.

Caloric intake (daily need of calories according to sex and age - intake)/intake.

* Fisher's exact test; † McNemar's test; ‡ Student's test; § ANCOVA.

Table 2 - Comparison of the incidence of favorable outcomes showing the effect of the program on the individual outpatient treatment

Variable	RR (95% CI; p)
↑ sporting activity	0.900 (0.554-1.919; p = 0.671) *
↓ BMI (kg/m ²)	1.300 (0.740-2.282; p = 0.350) *
↓ OI (%)	1.309 (0.853-2.010; p = 0.200) *
↓ total cholesterol (mg/dl)	1.425 (1.012-2.006; p = 0.038) †
↑ HDL-cholesterol fraction (mg/dl)	0.707 (0.443-1.128; p = 0.139) *
↓ triglycerides (mg/dl)	1.227 (0.785-1.919; p = 0.358) *
↓ caloric intake	0.663 (0.323-1.361; p = 0.254) *

BMI = body mass index; OI = obesity index.

* Chi-squared test; † Fisher's exact test.

consumption of soda was reduced ($p = 0.022$) and there was a tendency to consume more water ($p = 0.064$). They were also eating less sandwiches + burgers ($p = 0.022$), sandwiches + burgers + pizza ($p = 0.025$), sandwiches + burgers + pizza + fast food ($p = 0.006$) (Table 3).

Discussion

Educational programs, planned to widen children and adolescents' knowledge about nutrition and health and to have a positive impact of their diet and level of physical

activity, have been proposed for the management of childhood obesity.^{14,16} The current study shows that an educational program, which can be applied by any health professional at any location did not reveal to be less effective than traditional individualized childhood obesity treatment, and even exhibited certain advantages. The program offered incidence of body composition indexes reduction and calorie intake reduction similar to that afforded by individual outpatient therapy. However, it was more effective at reducing cholesterolemia, resulting

Table 3 - Food intake, amounts expressed in portions, estimated using a frequency analysis

Food	OG (n = 18)			PG (n = 20)		
	Before	After	p*	Before	After	p*
Fruits (unit) + vegetables (two spoons)	30.5 (80.5)	56 (110)	0.003	28.5 (135)	34 (184)	0.232
Rice + pasta (spoon)	178 (624)	173.5 (462)	0.913	117 (474)	90 (510)	0.444
Beans (ladle)	47.6 (252)	27.6 (95.2)	0.010	18 (56)	24 (112)	0.334
Meat (100 g)	56 (85)	56 (60)	0.575	56 (99)	42 (76)	0.351
Eggs (unit)	1 (16)	2 (8)	0.385	2.5 (16)	2 (15)	0.875
Soft dring (glass 150 ml)	12.4 (112)	10 (168)	0.140	20.5 (117.2)	16 (178.2)	0.022
Soft drink + artificial juice (glass 150 ml)	52 (263.2)	16 (194)	0.067	50 (535.6)	22 (245)	0.507
Salty snacks (unit)	0.75 (13)	2 (8)	0.629	5.9 (28)	3.8 (102)	0.209
Pizza (slice)	4.5 (28)	3 (16)	0.100	2.8 (21)	3 (24)	0.705
Yoghurt + milk (glass 150 ml)	49.5 (194)	56 (110)	0.122	51 (168)	31.5 (111)	0.089
Milk (glass 150 ml)	28 (168)	36.5 (98)	0.760	42 (84)	28 (56)	0.363
Bread (two slices)	56 (132)	42 (56)	0.963	42 (114)	56 (109)	0.107
Cookies (unit)	20 (224)	5 (40)	0.001	42 (144)	6.5 (96)	0.013
Crackers + cookies (unit)	52 (272)	26 (182)	0.126	48 (144)	27.5 (272)	0.401
Crisps (bag) + french fries (1/2 ladle)	4 (30)	2 (8)	0.041	5 (88)	3 (100)	0.432
Hot dog (unit) + ham/cheese (slice)	24 (119)	19 (95)	0.198	12.9 (56)	12 (40)	0.197
Candies (unit)	27.6 (350)	4 (80)	0.363	13.5 (70)	20 (168)	0.320
Desserts (pot) + sweets (unit) + chocolate (30 g) + ice-cream (one cone or popsicle)	12 (41)	9 (29.5)	0.102	16.3 (79)	9.5 (114)	0.872
Sandwich + meat sandwich (unidade)	14 (57)	10.5 (57)	0.660	6 (56.5)	4.5 (28)	0.022
Sandwich + meat sandwich + pizza	25 (63)	14.6 (63)	0.352	20 (58.5)	10 (52)	0.025
Sandwich + meat sandwich + pizza + fast food (unit)	27 (74)	15.3 (64)	0.140	24 (84)	11.5 (53.5)	0.006
Water (glass 150 ml)	179.2 (523.6)	179.2 (378)	0.245	105 (392)	154 (716.8)	0.064

Amount/month expressed in median (range); outpatient treatment group (OG); program group (PG). * Wilcoxon's test.

in ARR. This is an encouraging finding for public health, since obesity and dyslipidemia are associated with a greater risk of chronic diseases, arterioscleroses and heart diseases.³⁻⁵

The sample size may indeed have been a limitation of this study, compromising the certainty of its results. Nevertheless, the proposed initiative is confirmed as a potential alternative obesity treatment, despite the fact that its relative impact when compared with conventional treatment cannot be entirely established.

The six-month intervention period may also be considered too short to offer major results in childhood obesity treatment. This is why the observed tendencies towards improving dietary habits and habitual levels of physical activity, in addition to lipid levels and body composition indices, are results that should be valued.

Programs for treatment of overweight children and adolescents that involve rigorous physical activity exhibit significant, but not lasting, weight loss benefits.¹⁶ It has been shown that when physical activity is incorporated into lifestyle, made a part of daily activities, it potentializes the effects of weight loss, as do initiatives that encourage the reduction of sedentary behavior.¹⁶ The group education program resulted in greater increases in global physical activity, including at the weekends, with a tendency towards percentage reductions in the number of children who felt sedentary. This is extremely positive, since healthy habits acquired at this age can be maintained throughout life.

It has been approximately twenty years since Epstein et al. evaluated the effects of physical activity incorporated into lifestyle in comparison with structured aerobic exercises. Both interventions had reduced weight after 12 months of activity. After 2 years, however, a significantly lower percentage of the group that had worked on lifestyle were overweight, maintaining the relative changes that had been achieved whereas the group that had been on the systematic exercise program had returned to their original indices.³² More recently, the same author compared the effects of strategies to reduce sedentary behavior with regimes of intense physical activity for 10 and 20 hours, finding similar reductions in the percentage of overweight patients, with no significant differences.³³ Efforts to reduce inactivity in front of the television, video games and computers appear to have positive effects, since the number of hours spent watching television correlates with obesity.³⁴ This habit was observed thoroughly in the current study and did not improve with the intervention, which could mean that for this to occur it would be necessary to offer the children other activities.

Physical activity helps to improve physical aptitude and increase socialization, which can facilitate compliance with treatment and can also contribute to motivating patients to choose lower-calorie foods.⁹ Schwingshandl et al., in 1999, found that children and adolescents who underwent physical conditioning together with dietary counseling had significantly greater change in body mass than did a group receiving just dietary guidance after three months' intervention.³⁵ The reduction of high-calorie food and fat and carbohydrate

consumption, which extrapolates to healthier daily nutrition, was one of the objectives for which good results were achieved through intervention. The reduction in soda consumption was most evident in the program group, with a tendency to drink more water. This is a significant reduction since high levels of soda consumption can be the main source of simple sugars in the diet, bringing with it a consequent caloric impact.³⁶

Compliance with childhood obesity management proposals is poor,³⁷ constituting one of the greatest obstacles to treatment.³⁸ This fact was also observed in the current study. The finding that 50% of the children and adolescents had previously dieted to lose weight points to the frequent failure observed in obesity reduction attempts. Having tried dieting prior to treatment was recently singled out as a predictive factor for low compliance.³⁹ This is perhaps one limiting factor to motivation to start a treatment that, on its proposal, does not promise a slim body in a short time.

The family environment is an important factor in the management of childhood obesity.⁴⁰ In the present study it was found that 71.1% of the children and adolescents involved had obesity in the family, with 39.5% of their parents being obese. It has been reported that children whose parents are obese tend to respond worse to treatment.³⁹ The inclusion of the family in obesity management, as is the case with the educational, appears, therefore, to be a coherent initiative.

While obesity is a disease, it continues to be underestimated as such. Polanczyk et al.⁴¹ concluded from a study performed in Porto Alegre, Brazil, that obese individuals were not conscious of the adverse effects of obesity on health. This could be one fact that makes obesity management even more difficult. This is why nutrition and health education initiatives for obesity management are proposed and potentially offer benefits.

It is necessary to innovate in an effective and practical manner in the management of childhood obesity, which is an epidemic chronic disease and which the health service is having difficulties treating. Basic measures to control and modify lifestyle habits can and should be instituted as quickly as possible. Cooperation from all members of the child's family is of fundamental importance. The primary objective is to attempt to ensure that children and adolescents learn about healthy habits so that they can change their own habits over time and, consequently, change their body composition.¹⁸

Good results can be achieved through the use of an intervention that, being applied to groups rather than individuals, can benefit a greater number of patients per health professional involved.

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