

Client adherence to nutritional obesity treatment in a school clinic

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Abstract

Quantitative studies reveal that only 6.7% of clients submitted to nutritional therapy adhere to treatment. Evaluate the client adherence to nutritional treatment of obese clients attend in the Integrated Clinic for Health Care at the University Center Una, Belo Horizonte/MG, is the aim of this study. Sociodemographic and anthropometric data were collected from 232 medical records of clients with obesity. Women were predominant (82.32%) and 65% of the clients sought weight loss. Obesity was higher in women aged 40-59 years (41.8%) and 30-39 years (27.2%). In men the prevalence was in the 19-29 years (53.6%). Women between 30-39 years and men between 60-69 years presented the highest average weight loss and highest number of consultations. Factors such as schooling did not show interference with adherence to treatment. It was concluded that clients who adhere to the nutritional treatment and return to the consultations reach their objectives.

Introduction

Obesity is a multifactor disease characterized by the excessive body fat accumulation as a result of the high energy intake and low energy expenditure. This disease has been affecting a considerable part of the population, in all age groups and increasing the costs of public health [1].

In 2016 in Brazil, more than half of population was overweight and 18.9% of Brazilians were obese. The prevalence of overweight is higher in males and the age and the lower level of schooling contribute to the increase of this indicator. On the other hand, obesity has a higher prevalence in women (19.6%) than men (18.1%), according to a study realized in 27 Brazilian capitals [2]. It is estimated that in the years 2020-2025 about 50% of the world population will be obese [1].

The hypocaloric diet associated to exercises constituted the main therapy for weight loss and the risk of developing chronic non-communicable diseases (CNCD) in people with obesity [3]. However, the change in eating habits through nutritional intervention is one of the intervening factors of adherence to treatment [4].

Nutritional intervention aims to the prevention of diseases, promotion and protection of a healthy life leading the subject to a general well-being [5]. Nutritional therapy in CNCDs has a prominent place, requiring even more commitment from the patient. It is estimated that about 50% or more of these clients do not follow the treatment properly [6]. The result of this is the number of deaths due to DNCD that reaches 74%, representing in Brazil the largest cause of death. A Strategic Action Plan for Coping with CNCDs was launched in 2011 to reduce the premature mortality rate by 2% per year by 2022. Among the actions, the first one is stopping the growth of obesity in adult population until 2019, through intersectoral health and food and nutritional security policies [2]. However it is fundamental that the client adhere or have an active participation in the treatment.

The concept of adherence can be understood as a set of actions whose the main goal is the following of the guidelines, including

frequency of consultations, adherence to care such as medication and non-drug therapy, client behavior and behavioral changes, as well as guidelines such as cessation of smoking, incentive to practice physical activity and reduction of alcohol consumption [4].

The low adherence to treatment is associated to greater risk of morbidity and mortality, besides the frustration of health professionals, as it compromises the achievement of the goals sets leading to unnecessary readjustment of therapy and increased costs with hospitalization and treatment of complications [6]. Quantitative studies show that only 6.7% of clients submitted to nutritional therapy adhere to treatment [4].

In this context, research that investigates adherence to nutritional therapy may provide subsidies to devise adequate strategies that allow an individualized approach and a more specific intervention. In this sense, this study aims to evaluate the adherence to the nutritional treatment of clients with obesity treated at the Integrated Clinic for Health Care at the University Center Una, Belo Horizonte/MG.

Materials and methods

This cross-sectional study was performed through the collection of data from 2054 medical records of the clients attended at the Integrated Clinic for Health Care at the University Center Una, Guajaras Campus, Belo Horizonte/MG, at the second half of 2017. Were considered as inclusion criteria clients with obesity and who attended at least three consultations and as exclusion: records with incomplete data.

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The accomplishment of this study was approved by the Ethics and Research Committee of University Center UNA, under CAAE opinion 67531517.2.0000.5098. All information was collected by the author of the research in the Clinic with the authorization of the responsible teachers.

Concerning sociodemographic data were collected gender, age, schooling, reason that led the client to seek the attendance and number of consultations. The information about food preferences were also collected from the records.

As for the anthropometric data, weight and height were collected, following anthropometric standards [7]. These data were used to calculate the body mass index (BMI) from the formula weight (kg) divided by height (m²), and classified as eutrophic (18.5 kg/m² at 24.9 kg/m²), overweight (25 to 27 kg/m²) and obesity (values over 30 kg/m²) for adults and eutrophic (22 to 27 kg/m²), overweight (27 to 32 kg/m²) and obesity (values above 32 kg/m²) for the elderly according to the World Health Organization [8,9]. The BMI data were compared between the first and last care.

The four skin folds, triceps (TSF), biceps (BSF), supra iliac (SISF) and subscapular (SESF) were performed following the appropriate standards [10]. The percentage of fat was defined after summation of the four skin folds following the protocols [11]. Fat percentage data were presented according to gender and age group.

The data from BMI, fat percentage, number of consultation and weight loss were correlated with schooling.

The quantitative data were presented by means of the absolute and relative frequency and described by mean and standard deviation. For tabulation of the data, the software Microsoft Excel, version 2016 was used and Test t was the statistical analysis used to evaluate if there was a significant difference (p <0.05) between the values of initial and final BMI, performed using Assistant software.

Results

Of the 2054 medical records analyzed in the second half of 2017, 232 (11.29%) met the inclusion criteria. Of these, 41 (17.67%) were males and 191 (82.32%) were females.

The average age of clients was 39.4±13.4 years varying between 19 and 80 years. For women was 40.5±13.39 years and for men was 34.9±13.46 years.

As to the level of schooling, most of clients had a high school diploma (27.58%, n=64), followed by an incomplete superior (15.51%, n=36), complete superior (13.8%, n=32), incomplete elementary school (8.2%, n=19), complete primary school (6.9%, n=16), incomplete high school (4.75%, n=11), functional illiterate (86%, n=2) and postgraduate (2.15%, n=5). The others (20.25%, n=47) did not respond.

When asked about the reason for seeking care at the clinic, 151 (65%) clients reported their desire to lose weight, 40 (17.24%) sought food re-education and the other (41) specific treatment for some disease.

Figure 1 shows the result of dietary preferences reported by customers when asked what foods they do not would like to be removed from the diet. The sources of carbohydrate were the most cited, such as rice, pasta and breads, followed by meats, vegetables, sweets and soft drinks.

Table 1 shows the anthropometric evaluation according to the level of schooling of clients with obesity attended at the Integrated Clinic for

Health Care at the University Center Una, Belo Horizonte, 2018. It was noticed that the higher the educational level, the lower the percentage of fat and BMI. However, weight loss was higher in individuals with a high school diploma when compared to postgraduates.

In Table 2 is presented the initial and final BMI, fat percentage, number of consultations and average weight loss for females and males client with obesity attended at Integrated Clinic for Health Care at the University Center Una, Belo Horizonte, 2018. Obesity has shown most prevalent in women with ages between 40-59 and 30-39 years old, representing 41.8% (n=80) and 27.2% (n=52) respectively. In males, the

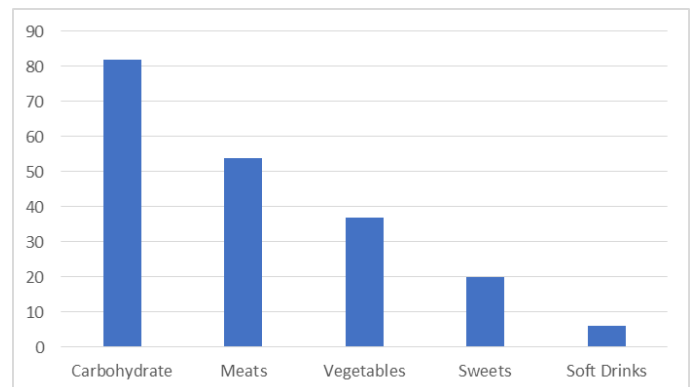


Figure 1. Food preferences of clients attended at the integrated health care clinic of university centre una, belo horizonte, 2018

Table 1. Schooling associated to the percentage of fat, body mass index, weight loss of obese clients attended by the Integrated Clinic for Health Care at the University Center Una, Belo Horizonte, 2018

Schooling	N	Fat initial %	BMI initial (kg/m ²)	Weight loss (Kg)
Illiterate	2	38.9	34.56	0.7
First degree completed	16	42.5	35.98	1.75
First degree incomplete	19	40.8	34.55	1.52
Second degree completed	64	38.63	34.63	2.35
Second degree incomplete	11	41.24	34.08	1.75
Graduated	32	35.96	34.72	1.8
Incomplete graduation	36	36.09	35.50	2.16
Postgraduate	5	33.45	33.72	0.84
Did not answer	47	26.8	35.7	1.7
Total	232			

Table 2. Initial and final body mass index, percentage of fat at the first visit, number of visits and average weight loss of patients attended at Integrated Clinic for Health Care at the University Center Una, Belo Horizonte, 2018

Sex Age range	N	BMI initial (kg/m ²)	BMI final (kg/m ²)	Fat %	Number of visits	Average weight loss (kg)
Women						
19-29 years	43	34.60	33.90	37.05	3.97	2.12
30-39 years	52	35.40	34.40	39.10	5.07	2.61
40-59 years	80	35.70	34.90	43.80	4.50	2.08
60-69 years	11	33.50	33.50	44.00	4.70	0.19
70-80 years	5	33.20	33.00	40.00	3.50	0.40
Total	191	35.20	34.40	40.89	4.5	2.06
Men						
19-29 years	22	35.70	35.38	25.85	3.80	1.27
30-39 years	10	33.20	33.10	32.40	3.70	0.44
40-59 years	5	36.20	35.70	36.80	3.75	1.68
60-69 years	4	35.50	34.30	30.60	7.00	3.46
Total	41	35.19	34.76	27.32	4.2	1.40

age group between 19-29 years is where the largest number of clients with obesity is found, with 53.6% (n=22) of the cases.

The women presented the highest average percentages of fat at the first visit, 40.89 ± 5.69 when compared with the men, 27.32 ± 9.52 . In both genders there is an increase in fat percentage with age, reducing again after 60-69 years for men and 70-80 for women.

Weight loss during nutritional monitoring was higher in men aged 60-69 years ($p=0.5$) followed by women aged 30-39 ($p=0.8$), consequently the reduction in BMI was greater in these cases, not being significant. These were also the groups that most attended the consultations with an average of 7 and 5 appointments performed, respectively, showing that the client's frequency plays an important role in achieving the results for weight loss.

Discussion

The present study has shown a higher number of women (82.33%) attended at the School Clinic. Similar results were found by Souza and Nunes [12], when 71.7% were women among obese clients attended in a nutritional clinic in Ribeirão Preto. There is an association of care and prevention related to the females, since men tend not to want to expose themselves and look for healing practices [12].

Related to age range, there was predominance of adults between 40 and 59 years for women and 19 and 29 years for men attended at the Clinic. According to Calejón and Paternez [5] elderly people who have already been affected by some disease seek to increase the years of survival and seek more for consultations. Young people do not care about the emergence of comorbidities and seek nutritional care for aesthetic issues and the desire to feel good about themselves.

In the present study, the large number of individuals who completed the high school and who sought care are students from the University Center Una, where the Integrated Clinic is located, as well as a study conducted in Teresina by Fernandes *et al.* (2016). The academic level is a factor that, according to Souza and Nunes [12] directly influence adherence, because the lower the level of education, the more difficult is the understanding of therapy, leading to treatment abandonment.

The biggest reason for seeking to nutritional care at the School Clinic was the weight loss. Similar results were found by Leal [13] were 62% of clients aimed weight loss. At the Niquini, Navarro and Bessa [14] study, clients with obesity reported that the difficulty to perform daily activities, social prejudice and mirror image are the main causes of the demand for treatment.

In the present study, carbohydrates sources were the main foods reported as preferred by clients. Fernandes *et al.* [15], research on food consumption and overweight in adults found carbohydrate intake higher than recommended in 36% of the study population.

The change in eating behavior is considered the main intervening factor in adherence to the treatment of CNCD. Niquini, Navarro and Bessa [14] pointed out in their study that anxiety and the relationship with food on free demand and time are the main complaints when asked about changes in eating habits. Calejón and Paternez [5] add to clients' difficulty in following the food plan with balanced amounts of nutrients at events and during weekends. Patients with obesity and other CNCDs represent the highest percentage of non-adherents to treatment, usually because they do not accept or do not see obesity as a disease [14].

In the present study, women, mainly between 40-59 years old represented the highest percentage of clients with obesity attended by

the clinic. Corroborating these results, the System of Surveillance of Risk Factors and Protection for Chronic Diseases by Telephone Inquiry (Vigitel) also found a higher prevalence of obesity in women (19.6%) of the 26 Brazilian capitals and the Federal District [2]. However, Fernandes *et al.* [15] in a study with 80 adults attending a Clinical School of a university in Teresina found a higher prevalence of obesity among men (n=46), showing that the disease reaches both sexes.

In males, the age group between 19-29 years had the highest BMI, but this is not a safe parameter of comparison, considering that this indicator considers only the variables weight and height. In men, BMI can be influenced by lean mass, which in young adults has a good representation of body weight, decreasing according to the advancement of age, which may have contributed to the difference between the BMI of adults and the elderly [10].

By relating the number of consultations with the results obtained, we can see that the groups that attended the most consultations had the best results when compared to the weight and initial and final BMI. Pereira *et al.* [16] in the evaluation of obese clients attended at a clinical school verified that of the 9 volunteers who returned to the service, 8 reached the goal of weight loss and dietary reeducation.

In Chile, 128 women submitted to physical activity sessions, a workshop with nutritionist and psychologist presented significant results of weight, BMI and waist circumference reduction. Women had greater adherence and participation in physical activity and it was the group that had the greatest weight reduction [17].

Another study realized with 116 individuals with overweight and obesity participants of the Food Education Program of Ribeirão Preto show that 50% of the participants were adhered to the program, and the obese grades II and III represent the highest percentages [18].

Chronic treatments have generally lower adherence, since therapies require great commitment from the client, and this must be constant [19], however clinical studies reveal up to 80% of treatment withdrawal [20]. According to Niquini, Navarro and Bessa [14] "the variable relationship between patient and prescriber affects adherence to treatment so that when this relationship provides emotional support, partnership and patient confidence the therapeutic adherence is greater". The health professional has an educative and motivational role in the treatment of obesity, being extremely important the stimulus for behavioral changes for clients submitted to non-drug therapies.

Conclusion

The presence of the client in the office has been shown to be fundamental for the improvement of the anthropometric profile of people with obesity, however adherence to the treatment is influenced by numerous factors that still need to be studied because the data are scarce in the literature. Health professionals need to perform educational, encouraging and assistance role, facilitating the professional-patient relationship and therefore getting better results.

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