

Profile of Clients Attended at the Integrated Health Care Clinic of the University Center UNA, Belo Horizonte, Brazil

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Abstract

Introduction: With the increase of obesity and related diseases, it is important to know the epidemiological knowledge of the population served by nutrition services.

Objective: To characterize the profile of the clients attended by the Integrated Clinic of Attention to Health of University Center UNA, Belo Horizonte.

Methods: This is a cross-sectional, descriptive and exploratory study with the medical records of 917 participants. The data was analyzed by means of descriptive statistics, using the absolute and relative frequency, calculated by the software Microsoft Excel, version 2013.

Results: Prevalence of female, brown skin color and family income between two and three minimum wages. Most people were single, aged between 20 and 30 years and had a college degree. Weight loss was the most frequently reported search reason. Hypertension was the most prevalent non-communicable diseases and in relation to body mass index, 61.4% of the clients were overweight. According to the waist circumference, 57.2% of the population had an increased risk of developing cardiovascular diseases. Almost half of the sample declared to be sedentary and in this group, 3.7% more people were at very high risk for developing cardiovascular diseases, 8.2% more obese and 7.2% less eutrophic. There was a positive relationship between the presence of non-communicable diseases and a much increased cardiovascular risk.

Discussion: Similar studies have shown similar sex distribution to this, in addition to the prevalence of weight loss as the main reason for consultation and hypertension as chronic non-communicable diseases more prevalent. However, the schooling and public income of this study were higher. Overweight and cardiovascular risk have shown worrying results, as they affect more than half of the sample and are also associated with sedentarism and, in the case of waist circumference, with the incidence of chronic non-communicable diseases.

Conclusion: This work reinforces the importance of nutritional care and food education actions for the prevention of diseases and health promotion of the population.

Keywords: *Epidemiological Study; Non-Communicable Diseases; Body Mass Index; Waist Circumference; Nutritional Assessment*

Introduction

With globalization and increased food processing technologies, changes in the global distribution of body mass index (BMI) from malnutrition to obesity occur worldwide [1]. This transition in Brazil confers different nutritional profiles: we can note the presence of malnutrition and the permanence of the deficient anemia and, paradoxically, the increase of obesity and related diseases, such as chronic non-communicable diseases (CNCD) - diabetes mellitus type 2, systemic arterial hypertension and dyslipidemias [2].

Such context has demanded from nutritionists a more in-depth reflection of their role as active agents in this process, since there has been an increase in the demand for nutritional care, aiming at maintaining health and preventing or treating dietary diseases of more frequent diseases [3].

Given this, it is of great importance the epidemiological knowledge of the population attended by the nutrition services spread throughout the country, as well as the understanding of the distribution pattern of diseases related to the current diet, characterized by the excessive consumption of products rich in fats, sugars and low fiber content, in addition to low intake of fruits and vegetables [4].

Assistance to patients seeking outpatient nutritional care should be individualized, including a description of the clinical and nutritional profile, as well as a careful investigation of their socioeconomic and alimentary reality [5]. Nutrition consultations can be conducted at the university level, through the clinic-school, which offers free or semi free service to the community. Supervised care in this location becomes crucial for the training of academics, which, in addition to improving clinical practice, play a social role in the community served [6]. Knowing customer profile data helps you chart nutritional education strategies.

Aim of the Study

Thus, the aim of this study is to characterize the profile of clients attended by the Integrated Clinic of Attention to Health of the University Center UNA, Belo Horizonte.

Methods

This was a cross-sectional, descriptive and exploratory study carried out with clients attended at the Integrated Health Care Clinic of UNA University Center, Belo Horizonte. The criteria of inclusion were clients attended at the Clinic in the year 2017 and exclusion clients with incomplete medical records.

Data were collected from the patients' medical records in 2017, they:

- Socio-demographic: Age, sex, marital status, color, schooling and income;
- Clinical: Presence of chronic non-communicable diseases (type 2 diabetes mellitus, systemic arterial hypertension and dyslipidemias), reason for consultation and practice of physical activity;
- Anthropometric: Weight, height and waist circumference (wc).

The ages were distributed according to gender (male and female), in the following ranges: ≤ 19 years, ≥ 20 to ≤ 30 years, ≥ 31 to ≤ 40 years, ≥ 41 to ≤ 50 years, ≥ 51 to ≤ 59 years, ≥ 60 years.

The income was classified according to the current minimum wage of R\$ 954,00 (US\$ 247,77) [7].

For the measurement of weight and height was used digital scale, Welmy™, with coupled stadiometer. Customers were weighed and measured at the center of the scale, as recommended by Jelliffe [8].

With the measures of weight and height, the BMI was calculated using the formula $BMI = \text{body weight (kg)}/\text{height (m)}^2$. The result was classified by the cut-off points of the World Health Organization [9] for children, adolescents and adults and the Pan American Health Organization, PAHO [10] for the elderly (≥ 60 years). For clients under the age of 19 years, BMI was assessed according to growth curves for age.

WC was measured at the midpoint between the iliac crest and the last rib (WHO, 1998). The risk analysis for the development of cardiovascular diseases evaluated WC, with values < 80 for women and < 94 for men, considered to be without risk, ≥ 80 and < 88 for women ≥ 94 and < 102 for men considered high risk and ≥ 88 for women ≥ 102 for men considered to be very high risk [11].

The collected data were tabulated and analyzed using descriptive statistics, using absolute and relative frequency, calculated by the Microsoft Excel software, version 2013.

The study was submitted and approved by the Research Ethics Committee of the University Center UNA with the number 67531517.2.0000.5098.

Results

Table 1 shows the sociodemographic data of 917 clients attended at the Integrated Health Care Clinic of the University Center UNA, Belo Horizonte, distributed by sex, 2018. In relation to sex, it is observed that the public attended in the clinic is composed of 78.4% of women and 20.6% of men, and the age range ≥ 20 to ≤ 30 years is predominant, in both sexes. There was also a prevalence of people of brown color and relative to family income, the highest prevalence between genders was established between two and three minimum wages. It is observed that the single public is the majority in the sample, a characteristic similarly distributed between the sexes. In both sexes the half of the people, it has superior course, complete or not.

Regarding the reason for the consultation, weight loss was the most frequently reported (57.9%), followed by food education (19.7%), hypertrophy or weight gain (13%), while 6.5% of the people were motivated to seek the Integrated Health Care Clinic for health problems and 1.1% for the need for follow-up after bariatric surgery. Weight maintenance was the reason reported by 1.5% of the patients and gestational follow-up by 0.2%.

Table 2 shows that, on CNCs, dyslipidemias were the least frequently detected among those investigated, followed by diabetes mellitus, whereas systemic arterial hypertension was the most prevalent chronic non-communicable disease.

With regard to BMI, most men are in the overweight category, while most women are eutrophic. However, considering the overweight and obesity categories it can be stated that 61.4% of people are overweight.

The cardiovascular risk analysis, estimated through WC, reveals that 57.2% of the population has high or very high risk of developing cardiovascular diseases, 51% of men and 58.7% of women.

Table 3 shows that 51% of the population practice some type of physical activity, while 49% are sedentary. Regarding cardiovascular risk, high risk was more observed among physical activity practitioners than among sedentary individuals, with a difference of 1.9%. However, very high risk was more observed among sedentary clients, with a difference of 3.7% in relation to practitioners of physical activity.

In relation to the BMI, there were more eutrophic people in the group that practices physical activity, with a difference of 7.2% in relation to the sedentary ones. In addition, there were more people classified as obese in the group without physical activity, with a difference of 8.2% in relation to the active clients. However, paradoxically, more overweight people were found in the group that practiced physical activity, 2.9% more than the sedentary group.

Table 4 presents the WC associated with the presence of CNDC of the clients attended at the Integrated Health Care Clinic of the University Center UNA, Belo Horizonte, 2018.

Variables	Men (189)		Women (728)		Total (917)	
	n	%	n	%	N	%
Age (years)						
≤ 19 years	32	16.9%	91	12.5%	123	13.4%
≥ 20 to ≤ 30 years	83	43.9%	266	36.5%	349	38.1%
≥ 31 to ≤ 40 years	28	14.8%	139	19.1%	167	18.2%
≥ 41 to ≤ 50 years	15	7.9%	116	15.9%	131	14.3%
≥ 51 to ≤ 59 years	15	7.9%	66	9.1%	81	8.8%
≥ 60 years	16	8.5%	50	6.9%	66	7.2%
Skin color						
White	60	31.7%	268	36.8%	328	35.8%
Brown	103	54.5%	357	49.1%	460	50.2%
Black	26	13.8%	102	14%	128	14%
Uninformed	-	-	1	0.1%	1	0.1%
Monthly family income						
< R\$954	6	3.2%	42	5.8%	48	5.2%
≥ R\$954 and ≤ R\$1908	22	11.6%	159	21.8%	181	19.7%
≥ R\$1909 and ≤ R\$2862	68	36%	282	38.7%	350	38.2%
≥ R\$2863 and R\$3816	26	13.8%	66	9.1%	92	10%
> R\$3816	38	20.1%	97	13.3%	135	14.7%
Uninformed	29	15.3%	82	11.3%	111	12.1%
Marital status						
Married	55	29.1%	230	31.6%	285	31.1%
Single	126	66.7%	447	61.4%	573	62.5%
Divorced	8	4.2%	37	5.1%	45	4.9%
Widower	-	-	14	1.9%	14	1.5%
Schooling						
Illiterate	1	0.5%	3	0.4%	4	0.4%
First Degree	23	12.2%	80	11%	103	11.2%
Second degree	63	33.3%	239	32.8%	302	32.9%
Technical Course	1	0.5%	7	1%	8	0.9%
Superior	94	49.7%	366	50.3%	460	50.2%
Graduate	3	1.6%	12	1.6%	15	1.6%
Masters	-	-	4	0.5%	4	0.4%
Doctorate	-	-	1	0.1%	1	0.1%
Uninformed	4	2.1%	16	2.2%	20	2.2%
Total	189	20.6%	728	79.4%	917	100%

Table 1: Socio-demographic data of clients attending the Integrated Health Care Clinic of University Center UNA, Belo Horizonte distributed by sex, 2018.

CNCD	Men (189)		Women (728)		Total (917)	
	n	%	N	%	n	%
Dyslipidemia	8	4.2%	22	3%	30	3.3%
Diabetes	14	7.4%	30	4.1%	44	4.8%
Hypertension	23	12.2%	92	12.5%	115	12.5%
BMI						
Thinness or low weight	9	4.8%	15	2.1%	24	2.6%
Eutrofia	62	32.8%	268	36.8%	330	36%
Overweight	64	33.9%	209	28.7%	273	29.8%
Obesity	54	28.6%	236	32.4%	290	31.6%
Cardiovascular risk	Men (157)		Women (637)		Total (794)	
No risk	77	49%	263	41.3%	340	42.8%
High risk	38	24.2%	124	19.5%	162	20.4%
Very high risk	42	26.8%	250	39.2%	292	36.8%

Table 2: Distribution of Chronic Non - Communicable Diseases, Body Mass Index and Risk of Cardiovascular Disease among clients attended at the Integrated Health Care Clinic of the University Center UNA, Belo Horizonte distributed by sex, 2018.

CNCD: Chronic Non-Communicable Diseases; BMI: Body Mass Index.

Cardiovascular risk	With PA		Without PA	
	N	%	n	%
No risk	234	25.5%	198	21.6%
High risk	99	10.8%	82	8.9%
Very high risk	135	14.7%	169	18.4%
BMI				
Thinness or low weight	8	1.7%	16	3.6%
Eutrophic	185	39.5%	145	32.3%
Overweight	146	31.2%	127	28.3%
Obesity	129	27.6%	161	35.8%

Table 3: Cardiovascular risk and body mass index of clients attended at the Integrated Health Care Clinic of the UNA University Center, Belo Horizonte associated with the practice of physical activity, 2018.

PA: Physical Activity.

Classification of cardiovascular risk by waist circumference (cm)	CNCD					
	Diabetes		Hypertension		Dyslipidemia	
	n	%	n	%	n	%
No cardiovascular risk	7	15.9%	9	7.8%	10	33.3%
Increased risk	3	6.8%	17	14.8%	7	23.3%
Increased risk	34	77.3%	89	77.4%	13	43.3%

Table 4: Waist Circumference associated with the presence of chronic non-communicable diseases in clients attended at the Integrated Health Care Clinic of the University Center UNA, Belo Horizonte, 2018.

CNCD: Chronic Non-Communicable Diseases.

The higher values of WC (very high risk) were observed equally in diabetes mellitus and systemic arterial hypertension, being lower in dyslipidemias.

Discussion

Regarding the sociodemographic data (Table 1), the predominance of females in this study (78.4%) was similar to that found in other studies, 77.6% [12], 79.4% [2] and 76% [13].

Regarding the skin color declared by the clients, brown (50.2%) and white (35.8%) predominated. In the 2010 census of the Brazilian Institute of Geography and Statistics (IBGE), there were also predominance of these two colors, with approximately 45% of the population of Minas Gerais declaring to be white and 44.6% declaring themselves brown [14].

In relation to the marital situation, the majority of the sample is made up of single people, a fact that can be attributed to the prevalence of young people under 30 years of age. In the study by Oliveira and Pereira (2014), also in the region of Belo Horizonte, where the mean age of the patients was higher (54 ± 14.09 years), there was a prevalence of married clients, with 55.55% [15].

The level of schooling prevalent in this study was higher education, either complete or in progress (50.2%), given different from the studies of Oliveira and Pereira (2014) and Oliveira, Lorenzatto and Fatel, in which there was a prevalence of people with lower schooling, elementary and middle school. This finding can be explained by the fact that 22.6% of the public attending the clinic is linked to UNA University Center, as a student or employee [2,15].

The family income most prevalent in this study was between two and three minimum wages (\geq R \$1909 to \leq R \$2862), with 38.2% of the people in this condition, given very different from those found by other authors who researched public clinic school, such as Oliveira, Lorenzatto and Fatel (2008), in which the majority of the public, 38.6%, of the public lived with income of 1 minimum wage [2].

Weight loss was the reason most frequently reported among the clients of this study (57.9%), a result similar to that found by Carvalho, *et al.* (2015) in which 55.3% of the patients reported this reason. In the study of Oliveira, Bittencourt and Nakajima (2012), the number of patients seeking weight loss was even more expressive, 73% [12,16].

Regarding NCDs, systemic arterial hypertension was the most prevalent in the study group, affecting 12.5% of clients. This data corroborates those found in similar studies, such as Carvalho, *et al.* (2015), 37.5%, Oliveira and Pereira (2014) 58.58% and Souto and Lopes, 47.7%. However, the discrepancy between the value found in this study and in the others, makes us believe that our results may have been underestimated by lack of record in the medical records. The percentage of patients with dyslipidemia and diabetes mellitus was also much lower in this study than those previously mentioned [12,15,17].

Regarding the nutritional status, the prevalence in this study was 36% eutrophic patients, however, there are a significant number of overweight and obese patients, 61.4% of the clients, a worrying number since overweight are related to a number of health complications. In the paper by Oliveira and Pereira, the percentage of overweight patients was even higher, 84.84% [15]. We emphasize that, although most women are in the eutrophic category and most of the men are in the overweight category, the difference was only 2.1%. However, in the obesity category the difference between the groups was more expressive, with 8.2% more obese women than men.

The WC of the studied population showed a high probability of developing cardiovascular diseases (CVD) in 57.2% of the people. CVD represent the major cause of morbidity and mortality in Brazil. In 2005, there were 283,927 CVD deaths, corresponding to 28.2% of the general mortality in the country. Thus, it is fundamental to know the magnitude of cardiovascular risk factors in order to carry out a health plan capable of intervening effectively in this reality [18].

Regarding the practice of physical activity, 49% of the study sample was considered sedentary. Gualano and Tinucci affirm that physical inactivity is one of the great public health problems in modern society, especially considering that about 70% of the adult population does not reach the recommended minimum levels of physical activity [19].

The distribution of NCDs was related to the classification of WC and a positive relation was observed between the presence of NCDs and WC ≥ 88 for women and ≥ 102 for men, since it is already consolidated in the literature. Increasing evidence shows that excess abdominal fat in the abdominal region is associated with a higher occurrence of metabolic complications and cardiovascular diseases, with a higher predictive capacity than the total body mass for myocardial infarction and stroke [20,21].

As limitations of the study it is suggested to conduct statistical analysis of the data correlating cardiovascular risk and body mass index, as well as waist circumference associated with the presence of chronic non-communicable diseases of the clients attended at the Integrated Clinic of Attention to Health of the University Center.

Conclusion

The results obtained in the present study reveal the prevalence of females in the studied population, besides the age group between 20 and 30 years. Most of the people are single, have completed college or training and have declared themselves to be brown or white. The most prevalent family income range was between two and three minimum wages. The most frequent reason for consultation was weight loss and the most prevalent CNCD was systemic arterial hypertension. Despite the prevalence of eutrophic individuals in the study, when the overweight and obesity categories are added, it is observed that the number of overweight people exceeds the number of people who are eutrophic. The CC analysis has shown that more than half of clients are at increased risk for developing cardiovascular disease. Almost half of the sample declared to be sedentary, with more obese and less eutrophic persons in this group. The distribution of chronic diseases showed a positive relation between the presence of CNCD and CC ≥ 88 for women and ≥ 102 for men. This work reinforces the importance and necessity of nutritional care and food education actions that promote disease prevention and health promotion of the population.

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