64 - QUALITY OF LIFE, OBESITY AND CORPORATIVE FITNESS

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INTRODUCTION

Obesity is defined as an excessive amount of body fat or adipose tissue (CABRERA et FILHO, 2001) and it is a major problem of public health. According to Brazilian Statistic and Geographic Institute - BSGI (2003), the prevalence of obesity in Brazil, in 2003, was 13,1% among women and 8,9% among men, which corresponds to 10,5 millions of people.

The Body Mass Index (BMI - kg/m^2) is an anthropometric measure usually used to classify the degree to which a person is overweight because it is a non-invasive measure and it can be universally applied. It is calculated as weight is kilograms divided by height in meters squared (OMS, 2004).

A number of previous studies have examined the relationship between obesity and quality of life. Consistents results reported in these studies point to the negative impact that obesity has on physical functioning (LARSSON et al., 2002).

Quality of life evaluation is done by using generic instruments, as *WHOQOL-bref*. The *WHOQOL-bref* is a questionnaire used to evaluate quality of life across four domains: physical, psychological, social relationships and environment.

The aim of this study was to evaluate quality of life of overweight and obese individuals enrolled in a health promotion program of an important Brazilian company.

METHODS

Sample

Participants were recruited from Center of Health Promotion (CHP), of Petrobras. The CHP was created by Petrobras with Federal University of Rio de Janeiro Physical Education School as a partner. The CHP was created to attend Petrobras employees that have one or more risk factors of cardiovascular disease.

CPS intends to enhance quality of life, wellness and physical and mental health of its clients by offering dietary advice and physical activities programs.

A total of 256 individuals participated of this sectional study: 190 men (42,5 9,0 years) and 56 women (42,8 8,8 years).

Measures

Quality of Life

The WHOQOL-*bref* questionnaire was administraded. The WHOQOL-*bref* is a 26 -item self-report measures that assess quality of life. The measure consists of scores on four domains: physical, psychological, social relationships and environment and two general questions of quality of life. Answers are presented as *Likert* Scale. The highest score permited is 20 points in each domain. Higher scores indicate better quality of life

Body Mass Index - BMI

Body Mass Index was calculated by dividing weight, in kilograms by height in meters squared (kg/m^2). Height (cm; FILIZOLA® - 1 cm) and weight (kg; FILIZOLA® - 100 g) measures were made with individuals dressing light clothes.

The International Classification of adult underweight, overweight and obesity according to BMI of Wold Health Organization (WHO, 2004) was used to classify the individuals: BMI 18,5 - *underweight*; 18,5 BMI 24,9 - *normal range*; 25 BMI 29,9 - *overweight* e BMI 30 - *obesity*.

Number of training sessions performed in CHP - Training Sessions Rate

The training session rate was calculated dividing the number of training sessions performed in CHP during the last three months before of the beginning of the study, by the number of weeks of the same period.

Statistical Analysis

They were calculated the mean and the standart-deviation of each variable considered in the study. Regarding the WHOQOL-*bref*, beyond the statistical descriptive one, it was also calculated the percentage of the mean value obtained in each domain regarding the maximum score permitted. The test *ANOVA one way* was utilized for the comparison of the mean among the subgroups. The analysis was stratified by sex. The identification of significant differences was obtained by the test of multiple comparisons *Tukey*. Level of significance adopted was 0,05. The statistical analysis was carried out in the software SPSS 13.0.

Ethics Aspects

The Collective Health Study Center's Ethics Committee (Federal University of Rio de Janeiro) approved this study. An informed consent has been obtained from all persons in the study. Participants' anonymity and privacity were kept in the study.

RESULTS

Body Mass Index - BMI

No participant presented BMI classified as underweight. Of that way, in the female and male groups, the participants were divided in three subgroups according to the BMI: group 1 - normal range; group 2 - overweight and group 3 - obesity. The mean BMI for the 191 participants of the male group was 26,8 kg/m^2. A total of 32,9% of the men presented the BMI classified as normal range, 50,7% classified as overweight and 15,7% classified as obesity (Table 1). Regarding the women, the mean BMI of the 56 participants was of 25,1 kg/m^2. The prevalence of obesity showed itself superior in this group (21,4%). The percentage of women classified as overweight was 16% and with BMI in normal range was 62,5% (Table 2).

Table 1 - Men's gruop characteristics

Variable	*Group*	*Mean*	*Std Deviation*	*p-value*
Age (years)	1 (n=63)	42,7	9	0,98
	2 (n=97)	42,5	9	
	3 (n=30)	42,3	9,3	
Height (cm)	1 (n=63)	175,2	7	0,13
	2 (n=97)	173,3	7,3	
	3 (n=30)	175,8	6,3	
Weight (kg)	1 (n=63)	71,1	7,7	**3,05E-36** 1≠2; 1≠3; 2≠3
	2 (n=97)	82,5	8,3	
	3 (n=30)	101,3	10,3	
BMI (kg/m^2)	1 (n=63)	23,1	1,5	**8,47E-67** 1≠2; 1≠3; 2≠3
	2 (n=97)	27,4	1,4	
	3 (n=30)	32,7	2,3	
Training (3 months)	1 (n=63)	2,2	1,6	0,05 **1≠3**
	2 (n=97)	2,4	1,7	
	3 (n=30)	3,1	2,4	

Table 2 - Women's gruop characteristics

Variable	*Group*	*Mean*	*Std Deviation*	*p-value*
Age (years)	1 (n=35)	42,1	9,4	0,76
	2 (n=09)	44,3	6,1	
	3 (n=12)	43,6	9,2	
Height (cm)	1 (n=35)	164,4	7,8	0,33
	2 (n=09)	161,6	4,6	
	3 (n=12)	161,5	4,4	
Weight (kg)	1 (n=35)	60,2	6,3	**1,01E-15** 1≠2; 1≠3; 2≠3
	2 (n=09)	70,9	4,9	
	3 (n=12)	83,8	5,5	
BMI (kg/m^2)	1 (n=35)	22,2	1,4	**2,55E-24** 1≠2; 1≠3; 2≠3
	2 (n=09)	27,1	1,8	
	3 (n=12)	32,1	1,7	
Training (3 months)	1 (n=35)	2,4	1,7	**0,31**
	2 (n=09)	3,6	3,3	
	3 (n=12)	2,5	1,9	

Quality of Life

It was observed in men group that the scores of Psychological and Environment domains and the scores of the general questions of QL diminished according to the classification of the BMI (as much as bigger the BMI, smaller the mean scores). Similar tendency was observed in the Psychological domain and in the general questions of QL in women group. The women group (BMI in normal range, overweight and obesity) presented smaller scores in the four domains and in the general questions of QL, when compared to men. In the two groups, it was observed a tendency of smaller scores for the group 3 (obesity) in the different domains, without statistical significance.

Table 3 - *WHOQOL-bref* scores - men's group

Domain	*Group*	*Mean*	*Std Deviation*	*% Max Value*	*p-value*
Physical	1 (n=63)	13,9	1,3	69,5%	0,92
	2 (n=97)	13,9	1,4	69,5%	
	3 (n=30)	13,8	1,8	69,0%	
Psychological	1 (n=63)	14,8	1,4	74,0%	0,12
	2 (n=97)	14,6	1,2	73,0%	
	3 (n=30)	14,1	1,9	70,5%	
Social Relationships	1 (n=63)	15,3	2,7	76,5%	0,28
	2 (n=97)	15,8	2,6	79,0%	
	3 (n=30)	15	3,2	75,0%	
Environment	1 (n=63)	15,5	1,6	77,5%	**0,03** 1≠3
	2 (n=97)	15,1	1,7	75,5%	
	3 (n=30)	14,4	1,9	72,0%	
Overall	1 (n=63)	16	2,2	80,0%	**0,02** 1≠3; 2≠3
	2 (n=97)	15,8	2,4	79,0%	
	3 (n=30)	14,5	2,9	72,5%	

Table 4 - *WHOQOL-bref* scores - women's group

Domain	*Group*	*Mean*	*Std Deviation*	*% Max Value*	*p-value*
Physical	1 (n=35)	13,0	1,5	65,0%	0,59
	2 (n=09)	13,3	1,4	66,5%	
	3 (n=12)	12,7	1,4	63,5%	
Psychological	1 (n=35)	14,4	1,5	72,0%	0,15
	2 (n=09)	14	0,8	70,0%	
	3 (n=12)	13,5	1,4	67,5%	
Social Relationships	1 (n=35)	15,5	2,9	77,5%	0,53
	2 (n=09)	15,5	3,4	77,5%	
	3 (n=12)	14,4	2,8	72,0%	
Environment	1 (n=35)	14,7	1,9	73,5%	0,31
	2 (n=09)	14,8	1,6	74,0%	
	3 (n=12)	13,7	2,1	68,5%	
Overall	1 (n=35)	15,4	2,8	77,0%	0,48
	2 (n=09)	15,1	3,0	75,5%	
	3 (n=12)	14,3	2,8	71,5%	

DISCUSSION

It is worring the percentage of individuals classified as overweight or obesity in this study because it corresponds to 60% of the total of researched people. According to Mendonça and Anjos (2004), the prevalence of overweight people may be explained, among others causes, by comtemporary occidental way of life, characterized by sedentary life and the comsumption of food with high levels of fat and sugar.

Studies about obesity impact in QL point to a negative relation betweeen the excessive weight and, above all, the physical domain of QL (LARSSON et al., 2002; KORTT et CLARKE, 2005). Although physical domain may have presented lower scores in comparison to the other groups, independent from gender, obesety and overweight haven´t presented significant differences in relation to individuals with normal BMI. Two hypothesis may justify the difference beteen this study and those

above mentioned: 1). The authors have used SF-36 questionnaire, whose physical domain of QL evaluates functional capacity through ten questions which gives evidence to the degree of how difficult it is for a person in the accomplishment of everyday tasks such as: climbing stairs, moving an object, dressing, sweeping the floor and walking long distances. On the other hand, physical domain of WHOQOL-*bref* evaluates the accomplishment of everyday activities in general, making use of the question: *"How much are you satisfied with your capacity of carring out your daily activities ?"*. Therefore, WHOQOL-*bref* , for the fact of not providing a full scope of functional capacity, was not able to distinguish indivuduals according to their suposed difficulties imposed on them by obesity. Moreover, the sample of this study is composed by people who, besides having an intense participation in CHP, have the following common characteristics: they work in a great Brazilian company, they are subjected to an excessive charge of working hours, and the majority of them carry out activities whose level of physical conditining and excessive weight do not interfere negatively in the accomplishment of their tasks.So, as these people spend a long period of the day in their offices, in their station works , their everday activities are represented by those performed in their working places.

The second hypothesis that may justify the finding results and may be the most probable, is the positive impact of interventions offered by CHP. One observed that the adherence to the program was similar among the groups. Benefits of physical activity at long or short terms, considering psycological and physical health of people are largely discussed in literature. As for obesity, it is clear that physical activity exerts an important function in weight reduction, as well as it enhances wellness, self-steem and QL. In a study about obesity and QL, Hassan et al. (2003) observed better scores in physical and psycological domains of QL in overweight individuals since they practised a regular physical activity. Considering these researches and the results of this study, we can suggest that CHP is able to promove enhance not only in physical conditions of overweight participants , but in their psycological conditions as well. However, the sectional nature of the present study limits the adequate evaluation CHP's impact on its participants. Additional longitudinal studies should be done to verify this hypothesis.

CONCLUSIONS

Although individuals classified as overweight present lower scores in all QL domains of WHOQOL-*bref*, results do not point to an evident impact of obesity in the quality of life of this group. This fact may be due to the insertion and adhesion of these individuals to the programs of physical activity and dietary advice offered by CHP. Subsequent studies are necessary for verify this hypothesis.

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QUALITY OF LIFE, OBESITY AND CORPORATIVE FITNESS

Obesity is a major problem of public health and its prevalence is rising across the world. Studies point to the negative impact that obesity has on physical functioning **Objective:** The aim of this study was to assess quality of life in overweight and obeses individuals enrolled on a health promotion program. **Methods:** 190 men (42,5 9,0 years) and 56 women (42,8 8,8 years) participated of this study. Quality of life was assessed using the questionnaire *WHOQOL-bref,* according its four domains: physical, psychological, social relationships and environment. Body Mass Index (BMI) was calculated as weight in kilograms divided by height in meters squared. Statistical analysis was performed using the software SPSS 13.0. Descriptive analyses is represented by mean and standard deviation. Analysis of variance (ANOVA) and Tukey test was used to compare *WHOQOL-bref* scores among BMI subgroups. Level of significance was 0,05. **Results and Discussion:** 60% of the sample present weight excess. The prevalence of obesity was 15,7% among men and 21,4% among women.The poorest score was seen in the physical domain, in women and men. The obesity did not determine expressive differences regarding the individuals with BMI normal. **Conclusion:** The results did not show an evident impact of the obesity in the quality of life of the obese individuals.This fact can be resulting of the insertion and adhesion of these individuals to the programs of physical activity and dietary advice offered by the CHP. Subsequent studies are necessary for verify this hypothesis.

Key-Words: Quality of life, *WHOQOL-bref* and obesity.

QUALITÉ DE VIE, OBÉSITÉ ET *FITNESS* CORPORATIVE

L'obésité est une importante problème de Santé Publique. Lês études revélent un impact négative de la massa grasse sûr la qualité de vie des personnes.**Objectif:** Évaluer la qualité de vie des personnes avec obésité qui participent d'un

programme d'activité physique et de conseil diététique d'une grande compagnie Brésilienne. **Matériels et Méthods:**190 hommes (42.5 9.0 années) et 56 femmes (42.8 8.8 années) a participé de cette étude. La qualité de vie a été évaluée avec l'utilisation du questionnaire WHOQOL-*bref,* accordant ses quatre domaines : les relations sociaux, l'environnement, physique psychologique. BMI a été calculé comme pèse dans les kilogrammes divisés par la hauteur dans les mètres carrés. L'analyse statistique a été exécutée utilisant le SPSS 13,0. Descriptif analyse est représenté par les moyens et la déviation standard. L'analyse de variance (ANOVA) et le test de Tukey ont été utilisé pour comparer les scores du WHOQOL-bref parmi les sous-groupes de BMI. Le niveau de signification était 0.05.**Résultats**:60% des personnes ont presenté l'excès de poids. La prédominance d'obésité était 15.7% parmi les hommes et 21.4% parmi les femmes. Le score le plus pauvre a été vu dans le domaine physique, dans les femmes et les hommes. L'obésité n'a pas déterminé de différences exressives en ce qui concerne les individus avec IMC normal.**Conclusion:** Les résultats n'ont pas montré un impact évident de l'obésité dans la qualité de vie des personnes obèses. Ce fait peut résulter de l'insertion et d'adhérence de ces personnes aux programmes d'activité physique et de conseil diététique offert par le CPS. Les études subséquentes sont nécessaires pour vérifie cette hypothèse.

Mot réserve: La qualité de vie, le WHOQOL-bref et l'obésité.

CALIDAD DE LA VIDA, OBESIDAD Y *FITNESS* CORPORATIVO

La obesidad es un problema importante de la salud pública. La obesidad afecta la opinión que las personas tienen sobre la calidad de la vida, principalmente en el dominio físico. El **objetivo** del estudio era determinar la calidad de la vida en los individuos con exceso de peso y con obesidad alistados en un programa de promoción de la salud. **Métodos:** 190 hombres (42,5 9,0 años) y 56 mujeres (42,8 8,8 años) participó de este estudio. La calidad de la vida fue determinada usando el cuestionario *WHOQOL-bref*, acordando sus cuatro dominios: y *ambiente, físico*, *psicológico y relaciones sociales*. El IMC fue calculado como el peso dividido por la altura elevada al cuadrado (kg/m^2). El análisis de la estadística fue realizado usando el SPSS 13,0. Los datos fueron presentados por el medio y por la desviación estándar. La *ANOVA* y la prueba de *Tukey* fueron utilizados para comparar las cuentas de *WHOQOL-bref* entre subgrupos de IMC. El nivel de la significación era p=0,05. **Resultados:** Un total del 60% de la muestra presentó exceso del peso. El predominio de la obesidad estaba del 15,7% entre los hombres y 21,4% entre las mujeres. El bajo resultado en el *dominio físico* de la avaluación de la calidad de vida fue vista en mujeres y hombres. La obesidad no determinó las diferencias expresivas con respecto a los individuos con IMC normal. **Conclusión**: No había impacto evidente de la obesidad en la calidad de la vida de la muestra, evidenciada para los resultados conseguidos en el *WHOQOL-bref.* Este hecho puede ser debido a la inserción y a la adherencia al programa de la orientación física y alimenticia ofrecido en el CPS. Los estudios subsiguientes son necesarios para verifica esta hipótesis **Palabras claves:** Calidad de la vida, *WHOQOL-bre*f, obesidad.

QUALIDADE DE VIDA, OBESIDADE E *FITNESS* CORPORATIVO

A obesidade é hoje um importante problema de saúde pública mundial. Nas últimas décadas, estudos têm demonstrado que o excesso de peso pode também pode afetar negativamente a qualidade de vida (QV) dos indivíduos. **Objetivo**: Avaliar a QV de indivíduos com sobrepeso e obesidade que participam de um programa de atividade física corporativa, de uma empresa brasileira de grande porte. **Metodologia:** 190 homens (42,5 ± 9,0 anos) e 56 mulheres (42,8 ± 8,8 anos) participaram do estudo. Para a classificação de obesidade, foi utilizado o Índice de Massa Corporal (kg/m^2). Para a avaliação da QV foi utilizado o questionário, de auto-aplicação, *WHOQOL-bref*. Os resultados descritivos estão expressos como média e desvio-padrão. A análise de variância (ANOVA) foi utilizada para a comparação das médias entre os subgrupos analisados. A identificação das diferenças significantes foi obtida pelo teste de Tukey O nível de significância adotado foi de 0,05. **Resultados e Discussão:** 60% da amostra apresentou excesso de peso. A prevalência de obesidade foi de 15,7% entre os homens e 21,4% entre as mulheres. Os grupos masculino e feminino apresentaram menores escores no domínio físico de QV. A obesidade e o sobrepeso não determinaram diferenças expressivas em relação aos indivíduos com IMC normal.**Conclusão:** Os resultados não apontaram um impacto evidente da obesidade na qualidade de vida dos indivíduos obesos. Este fato pode ser decorrente da inserção e adesão destes indivíduos aos programas de atividade física e de orientação nutricional oferecidos pelo CPS. Estudos subseqüentes são necessários para se verificar esta hipótese.

Palavras-Chaves: Qualidade de Vida, *WHOQOL-bref* e Obesidade.