



QUALITY OF LIFE AND ITS RELATION WITH CORPORAL MASS AND SATISFACTION WITH THE WEIGHT IN SCHOOLCHILDREN

QUALIDADE DE VIDA E SUA RELAÇÃO COM MASSA CORPORAL E SATISFAÇÃO COM O PESO EM ESCOLARES

CALIDAD DE VIDA Y SU RELACIÓN CON LA MASA CORPORAL Y LA SATISFACCIÓN CON EL PESO EN LOS ESTUDIANTES

Leidjaira Juvanhol Lopes¹, Gerson de Almeida Correia Santos², Elizabete Regina Araújo de Oliveira³, Marcia Mara Correa⁴, Maria José Gomes⁵

ABSTRACT

Objective: to evaluate the quality of life and its relationship with the nutritional status and weight satisfaction. **Method:** cross-sectional observational study which quantitative approach, performed with 407 schoolchildren between 8 and 12 years-old registered in public schools in Vitória (ES), Brazil. Quality of life data was obtained through the application of *Autoquestionnaire Qualité de Vie Infant Imagé*. The nutritional status was settled by Body Mass Index and the weight satisfaction was obtained with a closed question. The research project was approved by the Ethics Committee of the Center for Health Sciences, *Universidade Federal do Espírito Santo*, Brazil (n° 032/08). **Results:** in the sample studied, 79,4% (n=323) have evaluated positively their quality of life. The 72,7% (n=296) was categorized as eutrophics, 6,1% (n=25) had low weight, 11,3% (n=46) overweight and 9,3% (n=38) obesity. Regarding weight satisfaction, 78,6% (n=320) said that they were satisfied. The results didn't show evidence between quality of life and nutritional status among the students. Despite of that, this paper shows that the fact of the children or adolescent being satisfied with their weight is associated positively with a better perception about quality of life. **Conclusion:** this way, we can affirm that, in the group studied, what indeed interfere in the quality of life is the satisfaction with weight and not the real nutritional status, implying the subjective peculiarity of the theme quality of life. **Descriptors:** quality of life; child; adolescent; weight perception; nutritional status.

RESUMO

Objetivo: avaliar a qualidade de vida e sua relação com o estado nutricional e a satisfação com o peso. **Método:** estudo observacional do tipo seccional, com abordagem quantitativa, realizado com 407 escolares de 08 a 12 anos matriculados na rede pública de ensino do município de Vitória (ES). Os dados sobre a qualidade de vida foram obtidos com a aplicação do *Autoquestionnaire Qualité de Vie Infant Imagé*. O estado nutricional foi determinado por meio do Índice de Massa Corporal e a satisfação com o peso por uma questão. Para a análise dos dados foi utilizado o programa SPSS 15.0. Nos procedimentos estatísticos foi considerado, para todas as análises, um intervalo de confiança de 95% e um p-valor significativo inferior a 0,05. O projeto de pesquisa foi avaliado e aprovado pelo Comitê de Ética em Pesquisa do Centro de Ciências da Saúde da Universidade Federal do Espírito Santo (processo n° 032/08). **Resultados:** dos indivíduos estudados, 79,4% (n=323) avaliaram positivamente sua qualidade de vida, 72,7% (n=296) foram classificados como eutróficos, 6,1% (n=25) estavam abaixo do peso, 11,3% (n=46) com sobrepeso e, 9,3% (n=38) com obesidade. Quanto à satisfação com peso, 78,6% (n=320) declararam-se satisfeitos. Os resultados encontrados não evidenciaram relação entre a qualidade de vida e o estado nutricional dos escolares, entretanto o fato da criança ou adolescente sentir-se satisfeito com seu peso associa-se significativamente a uma melhor percepção da qualidade de vida. **Conclusão:** o que de fato interfere na qualidade de vida é a satisfação quanto ao peso e não o real estado nutricional do indivíduo, demonstrando assim o caráter subjetivo do tema qualidade de vida. **Descritores:** qualidade de vida; criança; adolescente; percepção de peso; estado nutricional.

RESUMEN

Objetivo: evaluar la calidad de vida y su relación con el estado nutricional y la satisfacción con el peso. **Método:** estudio transversal observacional con enfoque cuantitativo, realizado con 407 estudiantes de 8 a 12 años matriculados en escuelas públicas en la ciudad de Vitória (ES). He aplicado del *Autoquestionnaire Qualité de Vie Infant Imagé* para obtener los datos sobre la calidad de vida. Determino el estado nutricional utilizando el índice de masa corporal y la satisfacción con el peso por una pregunta cerrada. El proyecto de investigación fue aprobado por el Comité de ética el centro de ciencias de la salud, la Universidad Federal de Espírito Santo (n° 032/08). **Resultados:** de los sujetos estudiados, el 79,4% (n = 323) evaluó positivamente su calidad de vida, el 72,7% (n = 296) fueron clasificados como eutróficos, el 6,1% (n = 25) tenían bajo peso, 11,3% (n = 46) tenía sobrepeso y el 9,3% (n = 38) con la obesidad. En cuanto a la satisfacción con el peso, el 78,6% (n = 320) declararon sentirse satisfechos. Los resultados no encontraron ninguna relación entre la calidad de vida y estado nutricional, sin embargo, el hecho de que el niño se sienta satisfecho con su peso se asocia a una percepción mucho mejor de la calidad de vida. **Conclusión:** el grupo estudiado, que en realidad interfiere con la calidad de vida es la satisfacción del peso y no el estado nutricional actual del individuo. **Descriptores:** calidad de vida; niño; adolescente; percepción del peso; estado nutricional.

¹Nurse. Master's student in Public Health of Program of Post-Graduation in Collective Health, Center for Health Sciences, from Universidade Federal do Espírito Santo/PGCH/CHS/UFES. Vitória-ES, Brazil. E-mail: leidjaira_lopes@hotmail.com; ²Nurse. Graduated by Nursing Department, of the Center for Health Sciences, from UFES. Vitória (ES), Brazil. E-mail: gerson.acs@gmail.com; ³Nurse. Ph.D in Nursing from Universidade de São Paulo/USP. Professor of the Department of Nursing and the PGCH/CHS/UFES. Vitória (ES), Brazil. E-mail: elizabete_regina@hotmail.com; ⁴Nutritionist. Master in Public Health from PGCH/CHS/UFES. Professor of Faculdade Salesiana de Vitória and Nutritionist from UFES. Vitória (ES), Brazil. E-mail: marciamara@uol.com.br; ⁵Post Ph.D by Post-Graduate Program in Dentistry, from Universidade Estadual de Campinas/UNICAMP. Professor of Dentistry Course and the Post-Graduate Program in Dental Clinic, of the CHS/UFES. Vitória (ES), Brazil. E-mail: majogomezlou@yahoo.com.br

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INTRODUCTION

Taking into account the multifactorial character of the health-disease process and the need for a full assistance to the health, the use of the term Quality of Life (QL) has become increasingly more frequent in health services.¹

The quality of life can be understood as "the individual's perception of their position in life, in the context of culture and systems of values in which they live, and in relation to their objectives, expectations, standards and concerns".^{2:5}

In the case of diseases that affect the health of populations and influence on their QL, we can note the nutritional disturbances. In line with the new global trend, Brazil is in a nutritional transition process: the rate of malnutrition is decreasing to the levels of developed countries, but overweight and obesity are increasing gradually. This fact becomes worrisome, especially with regard to children and adolescents, as an obese in childhood are at least twice as likely to become an obese adult.³

Associated with these consequences is the fact that in a society where the search for the perfect body, the media and social pressure exert great influences on self-acceptance of body image and may contribute to low self-esteem and social discrimination, and providing opportunities for the development of emotional complications.⁴ in addition, negative attitudes and beliefs related to the size/weight of the perfect body is established even before adolescence, may contribute to the development of inappropriate behaviors that impair growth and development of the individual.⁵

The actual nutritional status of an individual, in a way, can act as a determining factor on how he/she feels about his/her weight. However, the satisfaction with weight is not always matching with the nutritional profile. It is likely that this occurs due to that, although they constitute a *continuum*, these two factors on one side symbolize objectivity and on the other, subjectivity.⁶

Starting from the assumption that both the way an individual presents itself as the way he perceives himself can exert impact on its QL; this study is of great significance, mainly because it is conducted with children and adolescents, given the scarcity of studies on QL in childhood.⁷⁻⁸

Given the above, this research aimed to

draw a profile in terms of quality of life of the group studied, from the perspective of children and adolescents themselves, with a validated questionnaire. Moreover, allowed to establish the nutritional status and level of satisfaction with weight, and evaluate the impact these two factors have on the QL.

METHOD

Observational study of sectional type, with quantitative approach, performed in the city of Vitória/ES - Brazil, for the period 2008/2009. We used a non-probabilistic sample by volunteer availability, consisting of 407 children and adolescents from the municipal schools.

The population of this study consisted of students who are aged between 08 and 12 years. The choice of age was due to the fact that a greater ease in locating children and adolescents, since it is predominantly a scholar age period, and because the transition zone between childhood and adolescence, allowing access to both groups.

The data collection was preceded by an initial contact with representatives of the schools for information on the objectives of research and the procedures to be performed at the students participating in the study. Each visit was scheduled in advance by means of telephone contact.

Still at this first moment, the children and adolescents were invited to participate in the survey in classrooms, and Free and Informed Consent Forms were delivered and sent to parents or legal guardians.

The criteria for inclusion in the study included: be enrolled in public schools in Vitória/ES, belonging to the age group studied; comply with the performance of research and, finally, obtain permission from parents or legal guardians by signing the Consent Form.

The research project, including the Free and Informed Consent Form (FICF), was evaluated and approved by the Ethics Committee in Research of Center of Health Sciences from *Universidade Federal do Espírito Santo* (Process n. ° 032/08).

The data on QL were obtained by applying the *Autoquestionnaire Qualité de Vie Enfant Imagé* (AUQEI), its format translated into Portuguese language, adapted and validated. The cutoff of 48 points, as already indicated, was used as a reference, below which it was considered as impaired QL.⁹⁻¹⁰

To characterization of the nutritional

status, in turn, we used the Body Mass Index (BMI) as the ratio between body weight and the square of height ($BMI = kg / m^2$). We considered cut-offs previously proposed ¹¹, and individuals were grouped according to the following percentages suggested by the World Health Organization (WHO) ¹²: BMI <P5 are classified as low weight, P5 <BMI <P85 as eutrophics; P85 <BMI <P95 as overweight; BMI> and P95 as obese. To measure the weight a digital scale with 100g precision and up to 150 kg was used, where individuals were instructed to remain barefoot and using light clothes. To determine the height to estadiometer with scale of 0,1 cm was used.

The evaluation of satisfaction with weight, finally, was performed using a closed question by which the students said if they were satisfied or not with their weight.

For data analysis, we used the software SPSS 15.0. The data were submitted to the

Kolmogorov-Smirnov normality test, to check if they came from a normal distribution; the Mann-Whitney and Kruskal-Wallis tests were used in the comparison of global QL and its domains with variables: gender, age, BMI and satisfaction with weight, and the Spearman correlation was used in the analysis of the degree of association between the domains that comprise the QL scale.

In the statistical procedures we considered, for all analyzes, a confidence interval of 95% and a significant p-value less than 0.05.

RESULTS

The study included 407 children and adolescents. The Table 1 shows the characteristics of the sample in relation to the variables: sex, age and perception of QL.

Table 1. Characterization of the children studied in terms of age, gender and perception of quality of life, Vitória/ES - Brazil, 2008/2009.

Variables	n	%
Gender		
Female	213	52,3
Male	194	47,7
Age		
8 years old	74	18,2
9 years old	84	20,6
10 years old	79	19,4
11 years old	87	21,4
12 years old	83	20,4
Quality of life		
Bad	83	20,4
Good	323	79,4
Without classification	1	0,2
Total	407	100,0

The data in Table 1 show that 79.4% of the students positively evaluated their QL. Only one did not respond to the questionnaire.

The scores obtained in each of the 26 items of the questionnaire showed that the questions with the highest levels of satisfaction were those relating to "vacation" and "birthday" followed by "mother figure", "practice of sports" and "be at the table with the family," respectively. The questions with the lowest levels of satisfaction on the part of children and adolescents, in turn, were those related to "hospital", "being away from family," "play alone", "take medicine drugs"

and "when friends talk badly about you", in that same order.

In relation to scores obtained for global QL, we found an average of 52.25 ± 6.51 . As for factors that compose the scale, the highest average observed, respecting the possible variations of each factor, were the fields "leisure" (8.16 ± 1.20), "family" (11.24 ± 2.35) and "functions" (10.15 ± 2.24), respectively. The lowest average was for the domain "autonomy" (6.83 ± 2.38).

The results obtained by analyzing of the correlation between the domains are shown in Table 2.

Table 2. Presenting the correlation coefficients of between the domains of the instrument of Quality of Life(AUQEI); Vitória/ES - Brazil, 2008/2009.

Domains	Domains				
	Autonomy	Leisure	Functions	Family	Global
Autonomy	1,000	0,101*	0,115*	0,183*	0,552*
Leisure	–	1,000	0,154*	0,295*	0,433*
Functions	–	–	1,000	0,255*	0,598*
Family	–	–	–	1,000	0,666*
Global	–	–	–	–	1,000

*Spearman coefficients statistically significant.

According to Table 2, the most correlated domains were, respectively, "family" and "global"; "functions" and "global", and "autonomy" and "global", while the least correlated domains were "autonomy and "leisure"; "autonomy" and "functions", and

"functions" and "leisure", in that same order.

The determination of BMI and the evaluation of personal satisfaction with weight in children and adolescents allowed characterizing them as shown in Table 3.

Table 3. Characterization of the students researched in relation to Body Mass Index and their satisfaction with weight, Vitória/ES - Brazil, 2008/2009.

Variables	n	%
BMI		
Low weight	25	6,1
Eutrophic	296	72,7
Overweight	46	11,3
Obesity	38	9,3
Without classification	2	0,5
Satisfaction with weight		
Satisfied	320	78,6
Unsatisfied	85	20,9
Without classification	2	0,5
Total	407	100,0

As for BMI, we observed that 6.1% of subjects were classified as underweight, 72.7% as eutrophics, 11.3% as overweight and 9.3% as obese. In only two students, it was not possible to perform anthropometric evaluation.

The answers to the question about

satisfaction with the weight, in turn, showed a satisfaction rate of 78.6%. A total of two students did not answer this question.

The results of comparative analysis between QL and the BMI variables and satisfaction with weight can be seen in Table 4.

Table 4. The relation of quality of life, Body Mass Index and satisfaction with weight of researched students, Vitória/ES, Brazil, 2008/2009.

Variables	p-value of each domain				
	Autonomy	Leisure	Functions	Family	Global
BMI	0,498	0,505	0,571	0,455	0,147
Satisfaction with the weight	0,049*	0,308	0,000*	0,145	0,000*

*p-value < 0,050.

It has been demonstrated, as shown in Table 4, the BMI was not a factor associated with global QL and the domains that compose the instrument in the study group. Satisfaction with the weight, in turn, showed a significant relation with the QL of the sample. It should be noted that only its

association with the domain "leisure" and "family" was not significant.

The data on QL were also compared with the independent variables: gender and age. We were not found significant differences to a significant p-value less than 0.05

In the present research, the positive results found by evaluating the QL confirm those obtained in other research on the QL of a group of 353 children between 4 and 12 years.¹⁰In addition, other authors also found similar results, although the study group was composed with a special population of children that suffered an ostomy.¹⁵

Regarding to individual questions that compose the instrument, the highest levels of satisfaction and dissatisfaction were also found matching with the findings of other studies.^{10,16}

When analyzing factors that integrate the scale, in turn, the "leisure" got better scores while "autonomy" was the most affected in the

DISCUSSION

The development of studies focusing on QL has increased significantly in recent years, and we found a greater appreciation of the theme.¹³⁻¹⁴However, there is great difficulty in evaluating this condition, since the term QL has many conceptions and there is currently no consensus about its meaning. When it comes to children, conceptualize QL becomes even more difficult, since to the childhood that term is also correlated with other factors, such as play, harmony and pleasure, and it is dependent on the stage of development where the child is inserted and family relationships which is part.¹⁵

perception of the researched group, as found in the literature.^{15,17} The correlation of inter-factors, however, was not matching with other findings, which evidenced between "functions" and "family" the highest correlation.¹⁰ However, both studies agreed on items with lower correlation.

With regard to nutritional status, in turn, the prevalence of overweight and obesity observed in this study were compared with evidences from other researches.¹⁸⁻²⁰

One study performed with students from 6 to 19 years found similar results to this present research, showing the rates of 11.9% of overweight and 5.2% of obesity.¹⁸ On the other hand, different authors who studied children from public schools in São Paulo-SP/ Brazil, showed rates of 10.29% and 13.83% of overweight, and 13.67% and 16.50% of obesity in males and females, respectively.²⁰

The results of this present study not evidenced the association between QL and nutritional status, showing that children and adolescents classified as underweight and overweight / obesity not showed significant differences regarding QL scores compared to those considered eutrophics.

Other Study with adolescents between 15 and 18 years, in which was analyzed the relation between excess of weight and health related quality of life (HRQL), found different results of this present research. However, only the correlation coefficient between BMI and HRQL for the total sample and for female adolescents was significant. As described by the own author, the predominance of females with rates of HRQL significantly lower than the male sample may have contributed to the low scores found.²¹

In study with children in the U.S.A., where it was searched to compare the BMI with the presence of depressive symptoms, overweight girls report more depressive symptoms than those who were not overweight, which may not be evident for males. It was also highlighted that this difference between the genders seems to be caused by a greater concern in women with overweight.²² Thus, it is possible to infer that what in fact has an impact on children is how they feel about their weight.

In this sense, the findings of this present study regarding the perception of weight were compared with those found in the literature.^{18,23} In a study that analyzed schoolchildren from 08 to 11 years of public and private schools was evidenced a prevalence of dissatisfaction with the weight

of 82%.²³ A study performed with individuals from private schools, in turn, aged between 06 and 19 years, had a rate of dissatisfaction was also higher than results found in this study. From the children studied, 42.6% were not satisfied with the weight.¹⁸

The findings of this present study revealed, in contrast to that study found on BMI, the fact that the child or adolescent feel or not satisfied with its weight is associated with significantly to a better or worse perception about QL.

Different authors have shown that 'two-thirds' of girls and less number of boys say that the fact that being thin would positively affect their happiness.⁵ Thus, dissatisfaction with weight, particularly with regard to overweight / obesity, may act as factor for a negative perception of well-being.

CONCLUSION

The fact that the individual declares himself/herself satisfied with his/her weight was related, significantly, to a better perception about QL in this researched group. On the other hand, there was no association between QL and nutritional status. Thus, the evidences put into focus the subjective character of the theme, since they confirms the fact that the QL of an individual reflects not only on its health, but goes well beyond this plan, involving much more questions concerning to perception of the individual than those seen in the perspective of the other human being.

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Corresponding Address

Leidjaira Juvanhil Lopes
Rua Monsenhor Guilherme Schimitz, 285/104
Bairro Sernamby
CEP: 29930-660 – São Mateus (ES), Brazil