


Quality of life and anthropometric assessment of teachers working at a private school system

Qualidade de vida e avaliação antropométrica de professores de uma rede privada de ensino

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ABSTRACT

Objective: To evaluate the association between quality of life (QoL) and anthropometric and teaching parameters of teachers from a private school system in São Paulo. **Methods:** A descriptive cross-sectional study was conducted with 107 teachers, using two self-administered questionnaires, addressing sociodemographic aspects, teaching and QoL variables (WHOQOL-bref). After completion, the subjects were submitted to weight, height, body mass index (BMI) and waist circumference (WC) measurements. **Results:** The teachers had an average age of 38.2 ± 8.6 years, and 78.5% were female, 78.5% were married, 74.8% belonged to class B. All teachers had completed higher education, 64.5 % had up to 10 years of work, 88.8% worked more than 20h / week, 44.9% worked two shifts or more, 55.1% were overweight, 71.1% at risk of metabolic disease and 84.1% considered their QoL good or very good. None of the anthropometric, teaching time, workload and economic class variables significantly correlated with QoL. Weak but significant correlations were observed between teaching time and BMI and WC ($r = 0.26$ and $r = -0.22$, $p < 0.05$). However, there was a significant association ($p < 0.05$) of QoL (< 71 points: 35.6 ± 7.9 years vs. 71 points: 40.0 ± 9.0 years) with age, BMI ($< 25\text{kg} / \text{m}^2$: $59.0 \pm 7.4\text{kg}$ vs. $\geq 25\text{kg}/\text{m}^2$: $80,3 \pm 15.0\text{kg}$) with weight and waist circumference ($< 25\text{kg} / \text{m}^2$: $80,6 \pm 6,9\text{cm}$ vs. $\geq 25\text{kg}/\text{m}^2$: $95,9 \pm 10.5\text{cm}$). **Conclusion:** Although the perception of QoL is satisfactory, it was not related to anthropometric, sociodemographic and teaching variables. However, teaching time was significantly related to BMI and WC.

Keywords: Anthropometry, Quality of Life, Faculty

RESUMO

Objetivo: Avaliar a associação entre a qualidade de vida (QV) e parâmetros antropométricos e de docência, de professores de uma rede privada de ensino de São Paulo. **Métodos:** Realizou-se estudo transversal descritivo com 107 professores, utilizando-se dois questionários autoaplicáveis, abordando aspectos sociodemográficos, variáveis da docência e de QV (*World Health Organization Quality of Life Bref - WHOQOL-bref*). Após o preenchimento, os sujeitos foram submetidos às medidas de peso, estatura, índice de massa corporal (IMC) e circunferência da cintura (CC). **Resultados:** $\pm 8,6$ anos, 78,5% do sexo feminino, 78,5% casados, 74,8% pertencente à classe B. Todos os professores possuíam ensino superior completo, 64,5% até 10 anos de atuação, 88,8% trabalhavam mais de 20h/semana, 44,9% atuavam em dois turnos ou mais, 55,1% encontravam-se com excesso de peso, 71,1% em risco para doença metabólica e 84,1% consideravam sua QV boa ou muito boa. Nenhuma das variáveis antropométricas, de tempo de docência, de carga horária e da classe econômica, correlacionaram-se significativamente à QV. Correlações fracas, mas significantes, foram observadas entre o tempo de docência e IMC e CC ($r = 0,26$ e $r = -0,22$, $p < 0,05$). Contudo, verificou-se significativa associação ($p < 0,05$) da QV (< 71 pontos: $35,6 \pm 7,9$ anos vs. ≥ 71 pontos: $40,0 \pm 9,0$ anos) com a idade, do IMC ($< 25\text{kg} / \text{m}^2$: $59,0 \pm 7,4 \text{ kg}$ vs. $\geq 25 \text{ kg}/\text{m}^2$: $80,3 \pm 15,0 \text{ kg}$) com o peso e a circunferência da cintura ($< 25 \text{ kg} / \text{m}^2$: $80,6 \pm 6,9 \text{ cm}$ vs. $\geq 25 \text{ kg} / \text{m}^2$: $95,9 \pm 10,5 \text{ cm}$). **Conclusão:** Embora a percepção da QV seja satisfatória, ela não se relacionou às variáveis antropométricas, sociodemográficas e de docência. Porém, o tempo de docência relacionou-se significativamente ao IMC e à CC.

Palavras-chave: Antropometria, Qualidade de Vida, Docentes

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INTRODUCTION

Quality of life (QoL) is a subject that is widely discussed today and according to the World Health Organization (WHO), it can be defined as the perception of the individual about his position in life, in the context of culture and value systems in which he lives, and in relation to his goals, expectations, standards and concerns. Thus, QoL is addressed in a subjective and multidimensional manner, including positive and negative evaluation elements.¹

Although important, QOL analyzes should not only focus on the physical and mental domains, but also on the social and environment in which individuals find themselves, including work, friends and family, remembering that the important thing is the perception of the investigated individual.²

Teacher's working conditions, when related to health conditions, such as high workload, excessive number of students per class and long working hours,^{3,4} may contribute to a healthy or unhealthy QOL.

With the modernization of society there has been an improvement in working tools, and the increased food supply may explain the rapid growth of obesity in the population. Low energy expenditure at work, higher supply of foods rich in sugar and fat, and physical inactivity changed the lifestyle and consequently the morbidity and mortality profile of the population, increasing the prevalence of overweight, obesity and other chronic diseases.

Factors such as high work demand, limited control over activities and poor social support, present in the teacher's work routine, contribute to the risk of chronic noncommunicable diseases (NCDs), a fact demonstrated by the prevalence of eating habits, inadequate alcohol intake and physical inactivity.⁶

Study suggests a close relationship between obesity and decline in QOL, worsening more among those who do not undergo any treatment.⁷ These factors, with advancing age, interfere with work capacity, impairing professional performance and QOL.⁸

OBJECTIVE

Considering the implications of overweight and obesity on the health and QOL of individuals and the limited number of studies dealing with this theme among teachers, the aim of this study was to evaluate the association between QOL and anthropometric

and teaching parameters of teachers of a network. private school in the south of São Paulo.

METHODS

This is a descriptive cross-sectional study conducted with elementary school teachers from a private school system. Data were collected in January 2015. All participants signed the Informed Consent Form. The research was approved by the Research Ethics Committee of the Adventist University Center of São Paulo, with protocol number 827,482 on 10/10/2014.

350 teachers were invited to attend the 2015 Teaching Planning meeting of the Department of Education of the Seventh-day Adventist Church Teaching Network. 116 teachers participated voluntarily, and 9 participants were excluded due to inadequate completion of the questionnaires, totaling 107 teachers in the sample.

The instrument used for data collection consisted of two self-administered questionnaires, the first addressing sociodemographic aspects, which included the work variables, and the second contemplating QOL.

The sociodemographic variables were age (years), gender (female or male), marital status (married, single, widowed, separated or divorced) and economic class (A, B, C, D and E). The information collected for the economic classification referred to the head of household's education and the presence of consumer goods at home. Data were analyzed according to the Brazil Economic Classification Criterion, which assigns points for each item according to its household characteristics, classifying the economic classes into A1, A2, B1, B2, C1, C2, D and E.⁹

Those related to work were: educational level, teaching time, weekly workload, number of shifts and schools that worked.

The perception of QOL was assessed by the *World Health Organization Quality of Life questionnaire (WHOQOL-bref)*, the most synthetic instrument from the WHOQOL-100, composed of 100 questions, created by a multicenter study organized by the WHO QL Group adapted and validated in Brazil by researchers from the Federal University of Rio Grande do Sul (UFRGS).¹⁰

The short version has 26 questions in total with 5 answer options: 24 facets (one question for each facet) regarding 4 domains of life: physical, psychological, social relations and environment; and 2 separate, more

general questions that directly question QoL assessment and personal satisfaction with health status. Another component of QoL measurement is the measure of overall QOL, obtained by averaging the scores in the first four domains. It uses scores from 0 to 100, positive and reverse, and Likert scale of four types: intensity, capacity, frequency and evaluation. It is self-explanatory and refers to the last two weeks.¹⁰

Anthropometric variables were measured by the researcher. Weight (kg) was collected using a portable Plenna® scale, with a capacity of 150 kg and a sensitivity of 100g. Individuals were asked to remove objects from their pockets, coats, accessories and shoes in order not to interfere with body weight. For the evaluation of height (m), the portable Sanny® stadiometer was used, where the teachers stood barefoot, with their legs together and stretched, distributing the weight equally on both feet. Legs slightly apart, heels close to the ground and head straight, in accordance with the Frankfurt plan.¹¹

Body Mass Index (BMI) (kg/m²) was calculated from the ratio of weight (kg) to height squared (m²) and classified according to the cutoff points proposed by the World Health Organization for adults: low weight for height: <18.5 kg/m²; eutrophic: 18.5 to 24.9 kg/m²; overweight: 25.0 to 29.9 kg/m²; obesity grade I: 30.0 to 34.9 kg/m²; obesity grade II: 35.0 to 39.9 kg/m²; and grade III obesity: 40.0 kg/m² or more.¹²

Waist circumference (WC) was measured with an inextensible tape measure positioned halfway between the last false rib and the upper edge of the iliac crest, with the individual standing upright, feet together and in the final phase of passive expiration. An increased risk for metabolic disease was considered when WC equal to or greater than 94 cm (men) and 80 cm (women); and substantially increased risk for metabolic disease when WC equal to or greater than 102 cm (men) and 88 cm (women).¹³ For the statistical tests, individuals classified as increased risk and substantially increased risk for metabolic disease were considered inadequate WC.

The results were analyzed using the GraphPad Prism 6.0 version for Windows statistical package.¹⁴ Initially all data were submitted to the D'Agostino-Pearson test to assess the normality or not of their distributions. The variables exhibiting parametric behavior were subjected to the following parametric tests: t-test of Student and Pearson's correlation. In both cases,

the significance level established was $\alpha < 0.05$. Pearson's correlation test was used to determine the associations between the variables studied and QoL. Subsequently, the teachers' sample was divided according to the QoL scores: those that were below the median (<71 points) and those that reached values equal to or higher than the median (≥ 71 points). The results were subjected to the test *t* of Student.

RESULTS

We evaluated 107 teachers (38.2 ± 8.6 years, minimum: 22 years and maximum: 58 years), 78.5% ($n = 84$) female and 78.5% ($n = 84$) married. Regarding economic class, 74.8% ($n = 80$) are in class B (Table 1).

All teachers evaluated have completed higher education, but only 9.3% ($n = 10$) have a postgraduate degree. Most respondents (64.5%, $n = 69$) have up to 10 years of experience in teaching. Regarding workload, 35.5% ($n = 38$) of teachers have a routine of 21 to 30 hours of work per week, 27.1% ($n = 29$) work more than 40 hours per week and 26.2% ($n = 28$) from 31 to 40 hours per week. Most work in one shift (54.2%, $n = 58$) and one school (75.7%, $n = 81$) (Table 2).

Table 3 shows that most teachers, 65.4% ($n = 70$), consider their QoL good. Regarding BMI, 55.1% ($n = 59$) are overweight (overweight and obesity). Regarding waist circumference,

71.1% ($n = 76$) have some degree of risk for metabolic disease.

Table 4 summarizes the findings regarding dichotomous comparisons with QoL, as well as other comparisons.

When teachers were divided into two categories according to WHOQOL (below and above the median), it was found that those who perceived better QoL were significantly older than those with lower perception ($p = 0.034$). (<25 kg / m² and 25 kg / m²), as expected, it was found that those with higher BMI values had significantly higher values of body weight and WC ($p < 0.001$).

Additionally, when divided according to WC, into adequate and inadequate, the former exhibited significantly lower values of body weight and BMI, as expected ($p < 0.001$). Table 5 summarizes the findings regarding Pearson's correlation coefficients.

The QoL results did not correlate with any other variable evaluated in this sample of teachers. Significant associations were found between teaching time and age, height, BMI and WC ($p < 0.05$). There were also significant associations between weight and height, and between BMI and weight ($p < 0.05$).

DISCUSSION

The two main findings of the present study were: the perception of QoL was satisfactory, but was not related to anthropometric,

sociodemographic and teaching variables. However, teaching time was significantly related to BMI and WC, suggesting that the longer the teaching time, the greater the risk for cardiovascular and endocrine, nutritional and metabolic diseases.

A study conducted in Bagé-RS showed that the highest prevalence of perception of good or optimal QoL was reported by individuals with normal BMI, while the obese had a higher prevalence of perception of poor or regular QoL, suggesting that body composition may influence in perceived QoL.¹⁵ Regarding the relationship between BMI and QoL perception, the present study did not find significant associations, but it is known about the relationship between overweight and NCDs.⁶

The studied sample is characterized as a female, young and middle class population. Studies show the predominance of feminization of the teaching profession in basic education, exercised by young women.^{16,17}

In the early grades, the teacher reflects a figure of affection, care and brotherly love, as well as the cultural aspect that led women to occupy this role in education. However, male participation increases in the area of education as the years of schooling increase, so much so that in higher education this proportion tends to be more balanced and may even go the other way.¹⁸

Most of the teachers studied have up to 10 years of experience, which was also observed in a study that evaluated the health, lifestyle and work conditions of 414 elementary school teachers in Bagé-RS. This data was considered by the authors as low teaching time when compared to the average age of teachers (40.1 years),¹⁵ which is similar to the average age obtained by the teachers studied.

According to the School Census,¹⁹ the distribution of teachers of basic education in the country with higher education is below the numbers found in this study, being 54.9% and 73.4% for initial and final grades, respectively. In contrast, only 9.3% of all teachers have postgraduate courses, lower than those found in other studies with teachers of elementary schools in Rio Grande do Sul, with 46.9% and 55.4% in Pelotas^{16,20} and 59.0% in Bagé.¹⁵

Most of the teachers studied (75.7%) work only in one school, as was also observed in the study conducted in Bagé-RS (55.0%).¹⁵ As for the weekly workload, 88.8% work more than 20h, similar to data found in a study conducted in Recife-PE, with teachers

Table 1. Sociodemographic characteristics of elementary school teachers from a private school in the south of São Paulo, 2015

Variables	no	%
Age		
22 - 33	32	29.9
34 - 46	56	52.3
47 - 58	19	17.8
Sex		
Male	23	21.5
Feminine	84	78.5
marital status		
Not married	10	9.3
Married	84	78.5
Separate	3	2.8
Divorced	9th	8.4
Widower	1	0.9
Economic class		
A	2	1.9
B	80	74.8
C	24	22.4
D	1	0.9

Table 2. Characteristics of the work of elementary school teachers from a private school in the south of São Paulo

Variables	no	%
Educational level		
Higher	97	90.7
Postgraduate studies	10	9.3
Teaching Time		
Up to 10 years	69	64.5
From 11 to 20 years old	26	24.3
From 21 to 30 years old	10	9.3
30+ years	2	1.9
Weekly workload		
Up to 20 hours	12	11.2
21 to 30 hours	38	35.5
31 to 40 hours	28	26.2
More than 40 hours	29	27.1
Number of Shifts		
Less than 1 shift	1	0.9
1 shift	58	54.2
2 turns	42	39.3
More than 2 turns	6	5.6
Number of Schools		
1 school	81	75.7
2 schools	22	20.6
3 schools	4	3.7

Table 3. Health characteristics of elementary school teachers from a rival network in southern São Paulo

Quality of life	n	%
Very good		
Good	20	18.7
Regular	70	65.4
Bad	16	15.0
BMI	1	0.9
Low weight		
Eutrophy	2	1.9
Overweight	46	43.0
Obesity I	37	34.6
Obesity II	15	14.0
Obesity III	6	5.6
CC	1	0.9
Without risk		
Increased	31	29.0
Substantially increased	31	29.0
Substantially increased	45	42.1

Table 4. Associations between QoL, BMI and CC of elementary school teachers of a private school system in the south of São Paulo

Selected Variables	Group 1	Group 2	Meaningfulness
WHOQOL	<71 points	≥71 points	
N	54 (51%)	53 (49%)	-
Age (years)	35.6 ± 7.9	40.0 ± 9.0	0.034
BMI	<25 kg / m ²	≥25 kg / m ²	
N	48 (45%)	59 (55%)	-
Weight (kg)	59.0 ± 7.4	80.3 ± 15.0	<0.001
Waist (cm)	80.6 ± 6.9	95.9 ± 10.5	<0.001
CC	Proper	Inadequate	
N	31 (29%)	76 (71%)	-
Weight	59.5 ± 10.6	75.3 ± 15.8	<0.001
BMI	21.9 ± 2.7	27.8 ± 4.6	<0.001

Selected variables: Only variables that differed significantly (p <0.05) are presented.

from three municipal elementary schools, where 70.4% of those worked more than 20h weekly.²¹

In Brazil, the proportion of teachers working 2 shifts or more reaches 36.3%, according to INEP,¹⁹ while in the present study this figure was high, 44.9%, for two shifts or more, indicating that the teaching activity is the main occupation of these professionals. Teachers have taken on more classes due to remuneration being proportional to the number of classes in order to promote an increase in monthly income to provide better QoL to the family, even if they occupy the time that would be devoted to self-care and leisure.^{22,23}

The high number of shifts performed by teachers, added to the extracurricular activities can cause physical and mental exhaustion, which was not observed in the associations of the present study, suggesting that teaching time influences health impairment. A study conducted with 156 teachers of public elementary schools in Viçosa-MG found a negative and significant correlation between the WHOQOL- *bref* social domain and weekly workload, highlighting that high working hours and working time can cause physical and mental damage,²³ as well as cases of syndromes *Burnout*, due to work overload.²⁴

In general, teachers' QoL perception was considered as good or very good (84.1%), results that are similar to other studies that used the same instrument, where most evaluated the QoL as good and very good (78.2%),²³ (85.7%).¹⁵

Among the teachers studied, there were no correlations between anthropometric variables, teaching time, weekly workload and economic class with QoL, although other studies show such relationships. Some factors that may justify these findings are: teachers work in two or more shifts, but in the same school - considering the city of São Paulo, the time spent moving around one school and another is a stressor; The sample came from a private and confessional education network, which differs from other studies regarding physical working conditions, the public served and the pedagogical project with a philosophical-theological basis.

In this study, most teachers share the same belief. There are indications that religious practices are fundamental for well-being and contribute to facing adverse situations. A study of adults of different faiths and atheists to validate the European

Table 5. Correlation matrix and respective coefficients of determination between the variables evaluated in elementary school teachers of a private school system in the south of São Paulo

	WHOQOL	Age	Stature	Weight	BMI	CC	Teaching	Charge
WHOQOL								
Age	0.15							
Stature	-0.10	-0.12						
Weight	-0.02	0.08	0.56 ***					
BMI	0.01	0.16	0.15	0.90 ***				
CC	0.03	-0.11	0.11	0.09	0.06			
Teaching	0.09	0.63 ***	-0.23 *	0.13	0.26 **	-0.22 *		
Charge	-0.11	0.16	0.11	0.10	0.06	-0.08	-0.01	
Class	-0.15	-0.08	-0.09	-0.07	-0.04	0.03	-0.01	-0.05

WHOQOL: points in the quality of life questionnaire. Age in years, height in centimeters, weight in kilograms, BMI in kilograms per square meter, waist in centimeters, teaching in years, weekly hours load and economic class (A = 1, B = 2, C and D = 3). Pearson's correlation coefficient: from 0.00 to 0.19: very weak; from 0.20 to 0.39: weak; from 0.40 to 0.59: moderate; from 0.60 to 0.79: strong; and from 0.80 to 1.00: very strong. * p < 0.05, ** p < 0.01 and *** p < 0.001

Portuguese version of the WHOQOL-SRPB (*Spirituality, Religiousness and Personal Beliefs*) noted that participants, divided into 12 groups, associated their spirituality, religiosity or personal beliefs to QOL and demonstrated greater ease in managing the difficulties experienced.²⁵

The study sample presents overweight and central obesity, which are risk factors for NCDs, such as osteoarthritis, cardiovascular disease, diabetes and various types of cancer. These diseases can lead to physical disabilities, causing discomfort and costs to individuals, due to reduced productivity, lost working days and losses to the productive sector, as well as burdening the public health system.^{26,27}

These individuals may not yet have a medical diagnosis for these diseases, but rehabilitation programs involving a multidisciplinary team, focusing on physical activity, food and nutrition education, will be effective in reducing risk factors, improving health and QOL.

There is little scientific knowledge about health conditions and QoL of this category, therefore, it is emphasized the need for further studies related to this theme, using other methods of body composition assessment, such as bioimpedance and measurement of skin folds.

CONCLUSION

There was no association between QoL, sociodemographic aspects and variables related to teaching work. Anthropometric

characteristics point to overweight and risk of metabolic disease, although the perception of QOL is satisfactory. However, teaching time was significantly related to BMI and WC. Health promotion actions are needed to encourage teachers to adopt healthier eating habits and lifestyles.

REFERENCES

1. The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization. *Soc Sci Med.* 1995;41(10):1403-9. DOI: [https://doi.org/10.1016/0277-9536\(95\)00112-K](https://doi.org/10.1016/0277-9536(95)00112-K)
2. Gill TM, Feinstein AR. A critical appraisal of the quality of quality-of-life measurements. *JAMA.* 1994;272(8):619-26. DOI: <https://doi.org/10.1001/jama.1994.03520080061045>
3. Pereira EF, Teixeira CS, Lopes AS. Qualidade de vida de professores de educação básica do município de Florianópolis, SC, Brasil. *Ciênc Saúde Coletiva.* 2013;18(7):1963-70. DOI: <https://doi.org/10.1590/S1413-81232013000700011>
4. Pereira EF, Teixeira CS, Andrade RD, Lopes AS. O trabalho docente e a qualidade de vida dos professores na educação básica. *Rev Salud Pública.* 2014; 16(2):221-31. DOI: <https://doi.org/10.15446/rsap.v16n2.36484>
5. Marinho SP, Martins IS, Perestrelo JPP, Oliveira DC. Obesidade em adultos de segmentos pauperizados da sociedade. *Rev Nutr.* 2003;16(2):195-201. DOI: <https://doi.org/10.1590/S1415-52732003000200006>
6. Reis RS. Comportamentos de risco à saúde e percepção de estresse dos professores universitários das IFES do sul do Brasil [Tese]. Florianópolis: Universidade Federal de Santa Catarina; 2005.
7. Seid EME, Zannom CMLC. Qualidade de vida e saúde: aspectos conceituais e metodológicos. *Cad Saúde Pública.* 2004;20(2):580-8. DOI: <https://doi.org/10.1590/S0102-311X2004000200027>
8. Oliveira RAR, Moreira OC, Andarde Neto F, Amorim W, Costa EG, Marins JCB. Prevalência de sobrepeso e obesidade em professores da Universidade Federal de Viçosa. *Fisioter Mov.* 2011;24(4):603-12. DOI: <https://doi.org/10.1590/S0103-51502011000400003>
9. Associação Brasileira de Empresas de Pesquisa. Critério de classificação econômica Brasil (2012). São Paulo: ABEP; 2012.
10. Ileck MPA, Louzada S, Xavier M, Chachamovich E, Vieira G, Santos L, et al. Application of the Portuguese version of the instrument for the assessment of quality of life of the World Health Organization (WHOQOL-100). *Rev Saude Publica.* 1999;33(2):198-205. DOI: <https://doi.org/10.1590/S0034-89101999000200012>
11. Frisancho AR. Anthropometric Standards for the assessment of growth and nutritional status. Ann Arbor: University of Michigan; 1999.
12. World Health Organization. Physical status: The use and interpretation of anthropometry. Geneva: WHO; 1995. n. 854. [Technical Report Series].
13. World Health Organization. Obesity: preventing and managing the global epidemic. Geneva: WHO; 2000. n. 894. [Technical Report Series].
14. Prism [computer program]. Version 6.0. La Jolla, CA: GraphPad Software; 2018.
15. Santos MN, Marques AC. Condições de saúde, estilo de vida e características de trabalho de professores de uma cidade do sul do Brasil. *Ciênc Saúde Coletiva.* 2013;18(3):837-46. DOI: <https://doi.org/10.1590/S1413-81232013000300029>
16. Silva LG, Silva MC. Condições de trabalho e saúde de professores pré-escolares da rede pública de ensino de Pelotas, RS, Brasil. *Ciênc Saúde Coletiva.* 2013;18(11):3137-46. DOI: <https://doi.org/10.1590/S1413-81232013001100004>
17. Vale SF, Maciel RH, Carlotto MS. Propriedades psicométricas da escala de percepção de estressores ocupacionais dos professores (EPEOP). *Psicol Esc Educ.* 2015;19(3):575-83. DOI: <https://doi.org/10.1590/2175-3539/2015/0193906>
18. Silva R. Características do estilo de vida e qualidade de vida de professores do ensino superior público em Educação Física [Tese]. Florianópolis: Universidade Federal de Santa Catarina; 2006.
19. Instituto Nacional de Estudos e Pesquisas Educacionais (INEP). Estudo exploratório sobre o professor brasileiro com base nos resultados do Censo Escolar de 2007. Brasília: Ministério da Educação, Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira; 2009.
20. Rombaldi AJ, Borges TT, Canabarro LK, Corrêa LQ, Neutzling MB. Conhecimento de professores de educação física sobre fatores de risco para doenças crônicas de uma cidade do sul do Brasil. *Rev Bras Cineantropom Desempenho Hum.* 2012;14(1):61-72.
21. Xavier IALN, Santos ACO, Silva DM. Saúde vocal do professor: intervenção fonoaudiológica na atenção primária à saúde. *Rev CEFAC.* 2013;15(4):976-85. DOI: <https://doi.org/10.1590/S1516-18462013000400027>
22. Sant'Anna AS, Costa RGMM, Moraes LFR. Qualidade de Vida no trabalho: uma análise em unidades de ensino básico [Resumo]. In: XXIV Encontro Nacional da Associação de Pós-Graduação em Administração; 2000 Set; Florianópolis, Brasil.
23. Tavares DDF, Oliveira RAR, Mota Júnior RJ, Oliveira CEP, Marins JCB. Qualidade de vida de professoras do ensino básico da rede pública. *Rev Bras Prom Saúde.* 2015;28(2):191-7.

24. Pereira EF, Teixeira CS, Andrade RD, Bleyer FTS, Lopes AS. Associação entre o perfil de ambiente e condições de trabalho com a percepção de saúde e qualidade de vida em professores de educação básica. *Cad Saúde Coletiva*. 2014;22(2):113-9. DOI: <https://doi.org/10.1590/1414-462X201400020002>
25. Catré MNC, Ferreira JA, Pessoa T, Pereira M, Canavarro MC, Catré A. O domínio SRPB (Spirituality, Religiousness and Personal Beliefs) do WHOQOL: O estudo com grupos focais para validação da versão em Português europeu do WHOQOL-SRPB. *Anal Psicol*. 2014;32(4):401-7.
26. World Health Organization. Health topics: Chronic diseases. Geneva: WHO; 2013
27. Bloom DE, Cafiero ET, Jané-Llopis E, Abrahams-Gessel S, Bloom LR, Fathima S, et al. The global economic burden of noncommunicable diseases. Geneva: World Economic Forum; 2011.