Quality of life and complaints of musculoskeletal pain in professionals of an educational institute

Qualidade de vida e queixas de dor musculoesquelética em profissionais de um instituto de ensino

Calidad de vida y quejas de dolor musculoesquelético en profesionales de un instituto de enseñanza

RESUMO

Objetivo: analisar a qualidade de vida e a presença de dor musculoesquelética em profissionais dos profissionais de um instituto de ensino federal localizado no município de Ipojuca. Método: estudo transversal que analisou 51 profissionais, com coleta de dados entre março e julho de 2021, através dos instrumentos: formulário sociodemográfico; SF-36 (Medical Outcomes Study 36 – Item Short – Form Health Survey) e o questionário nórdico músculoesquelético. Resultados: Os domínios de QV dos participantes apresentaram valores muito próximos para baixo e alto valor, com destaque negativo para os domínios aspecto emocional e capacidade funcional, evidenciando que a capacidade para realizar as atividades cotidianas e o estado emocional foram impactados pela pandemia. Também, dores em pescoço, ombros e costas foram sentidas por grande parte da amostra, independentemente da idade ou da função. Conclusão: Torna-se útil que as instituições invistam na melhoria da qualidade de vida dos trabalhadores, cuja abordagem deve ser subjetiva e multidimensional.

DESCRITORES: Qualidade de vida; Dor musculoesquelética; Saúde do trabalhador.

ABSTRACT

Objective: to analyze the quality of life and the presence of musculoskeletal pain in professionals from a federal educational institute located in the city of Ipojuca. Method: a cross-sectional study that analyzed 51 professionals, with data collection between March and July 2021, using the following instruments: sociodemographic form; SF-36 (Medical Outcomes Study 36 – Item Short – Form Health Survey) and the Nordic musculoskeletal questionnaire. Results: The QOL domains of the participants showed very close values for low and high values, with a negative emphasis on the emotional aspect and functional capacity domains, showing that the ability to perform daily activities and emotional state were impacted by the pandemic. Also, neck, shoulder and back pain were felt by most of the sample, regardless of age or function. Conclusion: It is useful for institutions to invest in improving the quality of life of workers, whose approach must be subjective and multidimensional.

DESCRIPTORS: Quality of life; Musculoskeletal pain; Occupational health.

RESUMEN

Objetivo: analizar la calidad de vida y la presencia de dolor musculoesquelético en profesionales de un instituto educativo federal ubicado en la ciudad de Ipojuca. Método: estudio transversal que analizó 51 profesionales, con recolección de datos entre marzo y julio de 2021, utilizando los siguientes instrumentos: ficha sociodemográfica; SF-36 (Medical Outcomes Study 36 - Item Short - Form Health Survey) y el cuestionario musculoesquelético nórdico. Resultados: Los dominios de la CV de los participantes mostraron valores muy cercanos para valores bajos y altos, con énfasis negativo en los dominios aspecto emocional y capacidad funcional, mostrando que la capacidad para realizar actividades diarias y el estado emocional fueron impactados por la pandemia. Además, la mayoría de la muestra sintió dolor de cuello, hombro y espalda, independientemente de la edad o la función. Conclusión: Es útil que las instituciones inviertan en mejorar la calidad de vida de los trabajadores, cuyo enfoque debe ser subjetivo y multidimensional.

DESCRIPTORES: Calidad de Vida; Dolor Musculoesquelético; Salud Laboral.

RECEBIDO EM: 04/04/2022 **APROVADO EM:** 27/05/2022

Iraneide Nascimento dos Santos
Federal Institute of Pernambuco (IFPE), Ipojuca (PE), Brazil.
ORCID: 0000-0001-8449-7840

Guilherme de Andrade Ruela
Federal University of Juiz de Fora (UFJF), Governador Valadares (MG), Brazil.
ORCID: 0000-0001-6976-8710

Érica Barbosa Magueta Silva
Federal University of Juiz de Fora (UFJF), Governador Valadares (MG), Brazil.
ORCID: 0000-0002-1482-2908

Patrick Ferreira da Silva
Federal University of Rio Grande do Sul (UFGRS), Porto Alegre (RS), Brazil.
ORCID: 0000-0002-9115-2047

Cláudia Fabiane Gomes Gonçalves
Federal Institute of Pernambuco (IFPE), Pesqueira (PE), Brazil.
ORCID: 0000-0003-1260-1623

INTRODUCTION

Work, an essential activity for human beings, is essential for the acquisition of their own sustenance and that of their family, becoming central in the life of those who exercise it. From it, consumer goods are produced, working and consuming, representing the very condition of life, which can cause contentment and fatigue. [1] Thus, if the work does not take place in a healthy environment, it can cause damage to the physical, psychological and social integrity of the worker.

Companies in this globalized world have to meet human needs, also taking into account market needs, and in the educational sector it would be no different. These changes have altered the molds of educational systems in their physical and organizational aspects, with new management models, following the logic of the market, based on the principles of neoliberal economics, guided by the notions of efficiency, productivity and excellence. [2] In this conjecture, teachers, as well as other professionals, who work following this new way of working, suffer from the precariousness of work, the loss of autonomy and the students' living conditions. [3]

According to the World Health Organization (WHO), [4] the concept of QoL depends on the perception that each individual has in relation to their disposition in life: their culture, goals, standards, concerns and expectations. Although it is a complex concept, a subjective and multidimensional approach, including physical and psychological health and social relationships, can contribute to its assessment. [5] On the other hand, Quality of Working Life - QWL, which is the object of this study, is a term used to express the broad experience lived by the individual with regard to work, consists of a set of actions aimed at managerial, structural and technological improvements and innovations in the work environment, as well as outside it, involving themes aimed at the well-being of the individual as a whole. [6]

According to the World Health Organization (WHO), 4 the concept of QoL depends on the perception that each individual has in relation to their disposition in life: their culture, goals, standards, concerns and expectations.

Especially in times of a pandemic, the QWL of education professionals can be impacted due to the social isolation imposed, as remote work can lead to demotivation, withdrawal from colleagues and less organizational commitment when working entirely from home, [7] which can be aggravated by the little or absence of training in the use of communication and information technologies for teaching-learning and administrative work at a distance. In addition, home working conditions, often improvised, without proper guidance and ergonomic adaptations can cause musculoskeletal changes. An integrative review showed an increase in the report of musculoskeletal pain, especially in the lumbar region, during the pandemic in teleworkers. [8]

In addition to ergonomic factors in the work environment, individual and/or psychosocial risk factors may play an important role in the development of musculoskeletal disorders. These disorders result from the excessive use of the musculoskeletal system and the lack of

time to recover these structures, with insidious symptoms that include chronic pain, paresthesia, feeling of heaviness and fatigue, especially in the upper limbs, with serious consequences such as temporary or even permanent incapacity for work. [9] According to data from the Notifiable Diseases Information System - Sinan, between 2007 and 2016, 67,599 cases of Repetitive Strain Injuries/Work-Related Musculoskeletal Disorders - RSI/WRMD were reported, as these diseases are included in the national list of notifiable diseases, and there was an increase in incidence coefficients from 3.5/100,000 workers in 2007 to 9.6/100,000 in 2016, which represented an increase of 170.5% over the entire study period. [9] Thus, a growing trend in musculoskeletal complaints is expected, considering the pandemic still in force and the work of home-office workers.

In view of this, the following guiding questions appeared: What is the quality of life of professionals at a federal educational institute in the municipality of Ipojuca? Did these professionals have musculoskeletal pain during the study period? The importance of the theme involves the generation of essential information to improve strategies for preventing work-related illness, with a view to providing workers with the adaptation of work environments, improving working conditions and, consequently, their quality of life. In addition, the study of QOL in public organizations is an incipient issue, as it is also a scientific field of limited interest.

The general objective of this article was to analyze the QOL and the presence of musculoskeletal pain in professionals from a federal educational institute located in the city of Ipojuca.

METHOD

This is a descriptive study with a cross-sectional design, with a quantitative survey-type approach, whose instrument was sent electronically. The research was carried out with professionals from a Federal Institution of Technological Education located in the city of Ipojuca (PE), medium-sized, with 838 students enrolled in courses in mechanics, occupational safety, industrial automation, shipbuilding and petrochemical technicians, and higher in chemistry and mechanical engineering in 2021.[2]. The choice of this scenario was for convenience and is due to the fact that the guiding question of this study arose from the difficulties felt and reported by the professionals of this institute during the pandemic.

The dimensioning of the sample size was carried out considering a population of about 70 teachers, 45 administrative and 20 outsourced workers, totaling about 135 professionals, based on a 95% confidence level to assume a maximum associated error of 5%, the sample would be composed of 100 subjects, without considering a 20% loss, for example, referring to professionals on leave. However, due to the difficulty of outsourced workers to access the technology necessary to complete the online forms and restrictions imposed by the pandemic to bring the instruments to them, the sample consisted of 51 professionals. The forms referring to the terms of free and informed consent (ICF) and research instruments, prepared in Google Forms, were sent to the institutional emails of all participants and WhatsApp groups of the coordinators of the courses and administrative departments of the institute.

Exclusion criteria were professionals who were on vacation, on leave or on leave during data collection and those who had some condition that made it impossible to participate, being an intern and/or under 18 years of age.

Data collection was carried out using the following instruments: form on sociodemographic aspects, a specific instrument was created to characterize the subjects; the SF-36 (Medical Outcomes Study 36 – Item Short – Form Health Survey) to analyze the quality of life and the Nordic musculoskeletal questionnaire to identify the prevalence of musculoskeletal pain in the population.

The first instrument was semi-structured, presented questions subdivided into personal data and questions related to work (gender, age, function, education, performance in a management/coordination position, length of service, workload and employment relationship).

The SF - 36 that assesses health-related quality of life consists of a multidimensional questionnaire consisting of 36 items, encompassed in 8 scales or domains, which are: functional capacity (performing daily activities such as taking care of oneself, dressing, bathing, climbing stairs), physical aspects (effects on physical health in relation to daily and/or professional activities), pain (level of pain and impact during daily and/or professional activities), general health status (subjective perception of general health status), vitality (subjective perception of health status), social aspects (reflection of physical health conditions in social activities), emotional aspects (reflects emotional state during daily and/or professional activities) and mental health (mood and well-being scales). It presents a score that goes from 0 (zero) to 100 (obtained by calculating the Raw Scale), where zero corresponds to the worst general health status and 100 corresponds to the best health status, with no single value summarizing the entire assessment, each dimension being analyzed separately. [10]

The Nordic Musculoskeletal Questionnaire presents a figure of the human body divided into nine regions: shoulders, elbows, wrist/hand, neck, upper and lower back, hips/thighs, knees and ankles/feet. In each of these regions, the respondent marks the occurrence of pain or tingling/numbness in the last 12 months and in the last seven days, the search for health professionals due to symptoms in the last 12 months and the impediment to perform activities of daily living due to symptoms. [11]

Data collection took place in July and

August 2021 and was only started after approval by the Research Ethics Committee of the Instituto Federal do Sertão (CAAE: 2379420.0.0000.8052) and Consubstantiated Opinion (Number: 4,703,771). Also, the ethical principles contained in resolution 466/12 of the National Health Council were followed.

Data were classified systematically. The frequency distribution was used to assess the general characteristics of the sample and also to investigate possible typing errors in the raw data. Data were exported from Microsoft Excel for statistical analysis using the Statistical Package for the Social Sciences (SPSS), version 26.0, using descriptive statistics (absolute and relative frequency, and measures of central tendency and dispersion). For the analysis of the SF-36, the variables were categorized according to the median cut of the scores.

RESULTS

Among the 51 participants, the prevalence of females was identified (62.7%; n=32), with a mean age of 44.18 years (SD±9.65) and a master's degree (51.0%; n=26). As for the work profile, most worked as public servants (98.0%; n=50), without a management/coordination position (74.5%; n=38), however, working in teaching (64.3%; n=33), with a mean workload of 34.97 hours (SD±10.94) and mean working time of 11.70 years (SD±9.65) (Table 1).

Table 2 depicts the distribution of quality of life domains, obtained according to the scores. It was found that the mental health domain had the highest average, while the emotional aspect had the lowest average.

As for the quality of life analysis, it was found that the participants showed lower results for all domains, including general QOL (Table 3).

Table 4 shows the results of the Nordic musculoskeletal questionnaire, indicating that, in the last year, respondents reported pain in the neck (60.8%;

Table 1 - Distribution of sociodemographic variables of the participants. Ipojuca, PE, Brazil. (N=51)

Variables	N (%)
Gender	
Female	32 (62,7)
Male	19 (37,3)
Age	
Minimum – Maximum	29 - 65
Mean - Standard Deviation	44,18 - 9,65
Education	
Graduation	2 (3,9)
Specialization/MBA	12 (23,5)
Master's degree	26 (51,0)
Doctorate degree	9 (17,6)
Post-Doctorate	2 (3,9)
Type of employment relationship	
Public server	50 (98,0)
Celetist employee	1 (2,0)
Do you have a management/coordinating position?	
Yes	13 (25,5)
No	38 (74,5)
Function	
Administrative	8 (15,8)
Communication consultancy	1 (2,0)
Librarian	1 (2,0)
Teacher	33 (64,3)
Journalist	1 (2,0)
Technician	7 (13,9)
Type of workload (hours)	
Minimum - Maximum	6 - 40
Mean - Standard Deviation	34,97 - 10,94
Service time (years)	
Minimum - Maximum	5 - 44
Mean - Standard Deviation	11,70 - 9,65

Source: Authors' elaboration, 2021.

n=31), shoulders (62.7%; n=32), in the upper (66.7%; n=34) and lower back (56.9%; n=29). However, none mentioned limitations to perform normal activities or sought assistance from a professional due to the mentioned problems. When asked about problems in the last week, it was also found that there were no affirmative answers.

Regarding the distribution of the pain scale by the aforementioned regions, table 5 shows that the highest averages were seen in the lumbar and neck regions. On the other hand, the smallest were observed in the elbow and hip/thighs.

DISCUSSION

The present study aimed to analyze QOL and the presence of musculoskeletal pain in professionals from a federal educational institute located in the city of Ipojuca. Regarding the sociodemographic profile, it was found that the predominance of the female gender was different from other authors. [12,13] In a survey carried out by Santos and Junior14 at the Instituto Federal da Bahia - IFBA, there was a prevalence of male teachers, whose age range is similar to our study. It is interesting to mention that the fact that there are more men than women on the IFBA campus was attributed to the type of course offered at this location (electromechanics and IT).

Regarding the degree, the data are consistent with the general qualification profile of the teachers of the Federal Network of Vocational and Technological Education, in which the majority are masters (52.37%) or doctors (27.67%), indicating that teachers who work in the Federal Network have a high degree of qualification. [15] It is important to mention that there is a lack of studies that assess the profile of administrative technicians in education, with predominance of publications related to the profile of professors.

The findings of this study point to the fact that the QOL domains in relation

Table 2. Distribution of quality of life domains. Ipojuca, PE, Brazil. (N=51)

Domains	Minimum	Maximum	Mean	Amplitude	Standard Deviation
Emotional Aspect	1,00	2,00	1,45	1,00	0,50
Social Aspect	2,00	10,00	7,20	8,00	2,07
Functional capacity	17,00	30,00	26,94	13,00	2,93
Pain	4,00	11,00	8,58	7,00	1,87
General Health Status	8,40	22,00	16,29	13,60	3,05
Physical aspect limitation	3,00	6,00	5,33	3,00	0,99
Mental Health	10,00	30,00	21,55	20,00	4,39
Vitality	6,00	23,00	14,90	17,00	3,83
General Quality of Life	61,00	133,00	105,48	72,00	15,30

Source: Authors' elaboration, 2021.

Table 3 - Analysis of QOL domains. Ipojuca, PE, Brazil. (N=51)

Domains	N (%)
Emotional Aspect	
Low emotional aspect	31 (60,8)
High emotional aspect	20 (39,2)
Social Aspect	
Low social aspect	27 (52,9)
High social aspect	24 (47,1)
Functional capacity	
Low functional capacity	31 (60,8)
High functional capacity	20 (39,2)
Pain	
Low pain	26 (51,0)
High pain	25 (49,0)
General health status	
Low general health status	26 (51,0)
High general health status	25 (49,0)
Physical aspect limitation	
Low limitation	51 (100,0)

to the SF-36 questionnaire, which includes life and health conditions, most domains were higher than 50%, but with very close values for low and high values, respectively, regarding the social aspect (52.9%/47.1%), pain (51%/49%), general health status (51%/49%), mental health (52%/47.1%), vitality (52%/47.1%) and quality of life (51%/49%), showing that in these aspects no domain stood out. In the same way, a study that evaluated the quality of life of Physical Education teachers in Catolé do Rocha-PB through the SF-36, showed that the domains social aspects, pain, general health and mental health had a balance. [16]

Still in relation to the QOL domains, the components that evaluated the emotional aspects and the functional capacity obtained averages below 40% for high emotional aspect and high functional capacity. These findings may mean that the ability to perform daily activities and emotional state were impacted by recent changes in the way of living and working caused by the pandemic, affecting work and interpersonal relationships, which are essential components for QOL, and may reflect on well-being, motivation and productivity.

Studies show that in the teaching profession, whose intellectual-emotional wear and tear is always present, health risks are exposed such as: working environments and adverse conditions, without professional perspectives, added to personal problems, increasingly worry teachers, since they are potential candidates for the development of various diseases, linked or not to the emotional aspect associated with low vitality. They themselves are aware that these situations cause low immunity and repercussions on their general health conditions, favoring constant flu states, migraines, labyrinthitis, hypertensive crises, depressive states, skin problems, among others. [17,18] It should be noted that the professors represent (66.3%) of the participants in this study.

In this perspective, it is considered that all QoL domains addressed (emo-

Hugh limitation	0 (0,0)
Mental health	
Low mental health	27 (52,9)
High mental health	24 (47,1)
Vitality	
Low vitality	27 (52,9)
High vitality	24 (47,1)
Quality of life	
Low quality of life	26 (51,0)
High quality of life	25 (49,0)

Source: Authors' elaboration, 2021.

Table 4 - Analysis of the Nordic musculoskeletal questionnaire. Ipojuca, PE, Brazil. (N=51)

Variables	In the past twelve months have you had problems (such as pain, tingling/numbness) with:	In the last twelve months, have you been prevented from carrying out normal activities, for example: work, domestic and leisure activities) because of this problem in:	In the last twelve months, have you seen a healthcare professional (doctor, physical therapist) because of this condition in:	In the past seven days, have you had any problems with:
Neck				
Yes	31 (60,8)	8 (15,7)	6 (11,8)	20 (39,2)
No	20 (39,2)	43 (84,3)	45 (88,2)	31 (60,8)
Shoulders				
Yes	32 (62,7)	10 (19,6)	6 (11,8)	13 (25,5)
No	19 (37,3)	41 (80,4)	45 (88,2)	38 (74,5)
Upper back				
Yes	34 (66,7)	9 (17,6)	7 (13,7)	15 (29,4)
No	17 (33,3)	42 (82,4)	44 (86,3)	36 (70,6)
Elbows				
Yes	9 (17,6)	5 (9,8)	3 (5,9)	6 (11,8)
No	42 (82,4)	46 (90,2)	48 (94,1)	45 (88,2)
Lower back				
Yes	29 (56,9)	15 (29,4)	7 (13,7)	17 (33,3)
No	22 (43,1)	36 (70,6)	44 (86,3)	34 (66,7)
Fist / hands				

Yes	23 (45,1)	12 (23,5)	7 (13,7)	15 (29,4)
No	28 (54,9)	39 (76,5)	44 (86,3)	36 (70,6)
Hip/thighs				
Yes	12 (23,5)	4 (7,8)	4 (7,8)	4 (7,8)
No	39 (76,5)	47 (92,2)	47 (92,2)	47 (92,2)
Knees				
Yes	15 (29,4)	5 (9,8)	5 (9,8)	9 (17,6)
No	36 (70,6)	46 (90,2)	46 (90,2)	42 (82,4)
Ankle/ Feet				
Yes	14 (27,5)	6 (11,8)	7 (13,7)	7 (13,7)
No	37 (72,5)	45 (88,2)	44 (86,3)	44 (86,3)

Source: Authors' elaboration, 2021.

Table 5 - Pain scale distribution. Ipojuca, PE, Brazil. (N=51)

Body part	Minimum	Maximum	Mean	Amplitude	Standard Deviation
Neck	0,0	10,0	2,98	10,0	2,94
Shoulders	0,0	10,0	2,78	10,0	3,14
Elbow	0,0	9,0	0,86	9,0	2,27
Fists	0,0	10,0	1,82	10,0	2,90
Thoracic region	0,0	9,0	1,12	9,0	2,40
Lumbar region	0,0	10,0	3,61	10,0	3,27
Hip/thighs	0,0	8,0	0,98	8,0	1,98
Knees	0,0	9,0	1,51	9,0	2,71
Ankle/ feet	0,0	10,0	1,43	10,0	2,73

Source: Authors' elaboration, 2021.

tional aspect, social aspect, functional capacity, pain, general health status, limitation due to physical aspect, mental health, vitality, quality of life) have repercussions on the sphere of life. general, which includes the satisfactions, experiences, social relationships and well-being of an individual and the community in which he is inserted, which corroborates the data from the Statistical Yearbook of Technical and Technological Vocational Education. [19]

QOL domains at the institutional level can be promoted through programs. These, with a view to improving QWL, should prioritize measures to reduce risks to people's health in organizations as proposed, faced with the quality of life situation, it is suggested to include programs that offer improvement in mental health, organization of work dynamics, educational programs and approaches to assess quality of life and well-being, scientific-cultural counseling and guidance programs, strategies that identify the difficulties experienced by professionals, favoring the search for solutions in work processes, monitoring the level of satisfaction regularly, conducting auriculotherapy sessions, labor gymnastics and encouraging the practice of routine physical exercises. [20]

In this sense, a qualitative study of national scope carried out with teachers, from different levels of education, pointed out that the practice of physical activity, meditation and yoga, in addition to adopting a balanced diet, strategies were adopted to increase physical well-being and emotional stability during the pandemic. [21] Therefore, it is important for organizations to invest in quality of life programs that present active strategies, focusing on having sufficiently active workers not only during the pandemic, but also afterwards.

Additionally, for the implementation of a QWL program that produces satisfactory results for the company and its workers, a careful process of quality standards and the commitment of the company's executive management are needed, [22] when interventions imply the potential and singularities of individuals/groups, to promote equity, expand health, reduce vulnerabilities and risks arising from social, economic, political, cultural and environmental determinants. [23]

In the last year, despite most participants not having sought a health professional due to musculoskeletal pain (MSP), this is a reality present in the lives of most participants, especially in some specific locations, such as the neck, shoulders and back. And regarding the pain scale, the highest averages were identified in the lumbar region and neck. A higher prevalence of MSP in these places has also been seen among professors from another Brazilian federal institution and it was inferred that it may be related to personal, health and even work organization and ergonomic characteristics. It is necessary to recognize the risks and intervene to reduce the prevalence of MSP, thus contributing to the reduction of disabilities, an increase in the quality of life and high quality education, [24] considering that MSP is the most frequent symptom of musculoskeletal disorders, with a great impact on life and society as a whole. [25]

Another international study confir-

ms the findings, where a high prevalence of musculoskeletal disorders among teachers was observed, as well as their negative impacts on quality of life. 26 It should be noted that other professionals also suffer from this condition, which impacts work in the sense of absenteeism, presenteeism, early retirement, among other issues, especially when the pain is chronic. [27]

In a federal educational institution, it was observed that the prevalence of MSP in different parts of the body was high among administrative technicians, both in the last 12 months and in the last 7 days, bringing the discussion of the relevance of chronic MSP.28 Even so, the quality of life of the population studied was considered satisfactory, which must be preserved and stimulated for continuous improvement. [28]

Our findings converge with research already carried out with similar groups, highlighting the importance of the subject, as well as indicating the need for further studies and interventions with the working population. The limitations of the research are related to the cross-sectional study, not making it possible to infer causality, as well as a small sample and no analyzes were performed between different variables in order to verify any associations between QOL and MSP.

CONCLUSION

Professionals from the federal education institute located in the municipality of Ipojuca presented QOL domains with very close values for low and high values, with a negative emphasis on the emotional aspect and functional capacity domains, showing that the ability to perform daily activities and emotional state were impacted by recent changes in the way of living and working caused by the pandemic. Also, the study revealed that neck, shoulder and back pain were felt by most of the sample, regardless of age or function. Thus, it becomes useful for institutions to invest in improving the quality of life of workers, whose approach must be subjective and multidimensional, at managerial levels, structural and technological aspects of the company, in order to achieve an improvement or a high standard of well-being in people's lives, which will also reflect in the reduction of complaints of musculoskeletal pain.

REFERÊNCIAS

1.Jansson I, Wagman P. Hannah Arendt's vita activa: A valuable contribution to occupational science. J Occup Sci. 2017;24(3):290-301. https://doi.org/10.1080/14427591.2016.1277780

2.Carlotto MS, Câmara SG. Prevalence and predictors of Burnout Syndrome among public elementary school teachers. Anál. Psicol. 2. 2019;37(2):135-146. https://doi.org/10.14417/ap.1471

3.Landini SR. Trabalho docente, precarização e quadros de adoecimento. Revista FAEEBA. 2008;17(30):117-128 [acesso em 2022 Jan. 30]. Disponível em: http://www.revistadafaeeba.uneb.br

4.World Health Organization. The World Health Organization Quality of Life Assessment (WHOQOL): Measuring Quality of Life [Internet]. Geneva: WHO; 1997 [acesso 21 nov. 2021]. Disponível em: http://www.who.int/iris/handle/10665/63482

5.Carr AJ, Gibson B, Robinson PG. Measuring quality of life: is quality of life determined by expectations or experience? BMJ. 2001;322(7296):1240-3. Doi: 10.1136/bmj.322.7296.1240

6.Gramms LC. Gestão da qualidade de vida no trabalho. Cutitiba: Intersaberes, 2017.

7.De Vries H, Tummers L, Bekkers V. The benefits of teleworking in the public sector: reality or rhetoric? Rev Public Pers Adm. 2018;28:1-22. https://doi.org/10.1177/0734371X18760124

8.Santos IN, Pernambuco ML, Silva AMB, Ruela GA, Oliveira AS. Association between musculoskeletal pain and telework in the context of the COVID 19 pandemic: an integrative review. Rev Bras Med Trab. 2021;19(3):342-350. http://dx.doi.org/10.47626/1679-4435-2021-812

9.Ministério da Saúde (BR). Saúde Brasil 2018: Uma análise da situação de saúde e das doenças e agravos crônicos: desafios e perspectivas. 1 ed. Brasília: Ministério da Saúde; 2019. [Internet]. 2020. [acesso 02 nov 2020]. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/saude_brasil_2018_analise_situacao_saude_doencas_agravos_cronicos_desafios_perspectivas.pdf

10. Laguardia J, Campos MR, Travassos CM, Vasconcellos MM, Najar AL, Anjos LA. Avaliação psicométrica do questionário SF-36 (v.2) em amostra de probabilidade de domicílios brasileiros: resultados da pesquisa Pesquisa Dimensões Sociais das Desigualdades (PDSD), Brasil, 2008. Saúde Qual Life Outcomes 2011;9:61. https://doi.org/10.1186/1477-7525-9-61

11. Pinheiro FA, Tróccoli BT, Carvalho CV. Validity of the Nordic Musculoskeletal Questionnaire as morbidity measurement tool. Rev Saude Publica. 2002;36(3):307-12. https://doi.org/10.1590/S0034-89102002000300008

12. Almeida L de, Martins FD, Bagnara IC, Lang AMR, Boscatto JD. Perfil dos docentes de educação física dos Institutos Federais. PROFEPT [Internet]. 2020;4(2):154–73. https://doi.org/10.36524/profept.v4i2.538

13. Pires AP, Bahia MGM, Ferreira SAB, Caires VG. Professores do ensino básico, técnico e tecnológico: perfil e atuação profissional. Rev.cted [Internet]. 2017;3(2):109–26. https://doi.org/10.22476/revcted.v6.id382

14.Santos AV, Junior MAS. Características de professores de um Campus da Rede Federal: análise de aspectos pessoais, profissionais e sociais. RBEPT [Internet]. 2020;1(18):9277. https://doi.org/10.15628/rbept.2020.9277

15.Linkowski JAS, Campolin LC, Raymundo GMC. Docência para educação profissional e tecnológica: aproximando diálogos. Educa [Internet]. 2020;7:300-314. https://doi.org/10.26568/2359-2087.2020.4101

16.Bezerra AS. A qualidade de vida dos professores de educação física escolar da rede púbica e privada de Catolé do Rocha-PB. Arq. Bras. Ed. Fís. 2018;1(1):111-8. https://doi.org/10.20873/abef.v1i1.4931

17.Sanchez HM et al. Impacto da saúde na qualidade de vida e trabalho de docentes universitários de diferentes áreas de conhecimento. Ciênc. saúde coletiva 2019;24(11):4111-4123. https://doi.org/10.1590/1413-812320182411.28712017

18.Bogaer I et al. Associations between different types of physical activity and teachers' perceived mental, physical, and work-related health. BMC public health, 2014;14(1):1-9. https://doi.org/10.1186/1471-2458-14-534

19.Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. Sinopse Estatística da Educação Profissional e Tecnológica – 2019. Brasília: Inep, 2021 [acesso 15 dez. 2021]. Disponível em: https://download.inep.gov.br/publicacoes/institucionais/estatisticas

20.Felício H. A. et al. Qualidade de vida e condições ergonômicas em trabalhadores de um laboratório de saúde pública. Rev. Bras. Promoc. Saúde [Internet] 2021;34. https://doi.org/10.5020/18061230.2021.11017

21.Sampaio MAL, Costa JM, Barbosa LNF, Melo MCB, Santos CS. A docência nos tempos de pandemia: um estudo sobre as vivências de professores brasileiros durante o período de isolamento. Saud. Coletiv (Barueri) [Internet]. 2022;12(74):10027-39. https://doi.org/10.36489/saudecoletiva.2022v12i74p10027-10039

22.Galassi C. A Relação Entre a Qualidade de Vida no Trabalho e a Área de Higiene e Segurança do Trabalho. Saud. Pesq. 2015 [acesso 30 dez. 2021];8:65-78. Disponível em: https://periodicos.unicesumar.edu.br/index.php/saudpesq/article/view/3760

23.Santos EC, Espinosa MM, Marcon SR. Qualidade de vida, saúde e trabalho de professores do ensino fundamental. Acta Paul Enferm. 2020;33. https://doi.org/10.37689/acta-ape/2020AO0286

24.Kraemer K, Moreira MF, Guimarães B. Musculoskeletal pain and ergonomic risks in teachers of a federal institution. Rev Bras Med Trab. 2020;18(3):343-351. http://dx.doi.org/10.47626/1679-4435-2020-608

25.Blyth FM, Briggs AM, Schneider CH, Hoy DG, March LM. The global burden of musculoskeletal pain—where to from here? Am J Public Health. 2019;109(1):35–40. https://doi.org/10.2105/AJPH.2018.304747

26.Karakaya İÇ, Karakaya MG, Tunç E, Kıhtır M. Musculoskeletal problems and quality of life of elementary school teachers. Int J Occup Saf Ergon. 2015;21(3):344-50. https://doi.org/10.1080/10803548.2015.1035921

27.Patel AS, Farquharson R, Carroll D, et al. The impact and burden of chronic pain in the workplace: a qualitative systematic review. Pain Pract. 2012;12(7):578–589. https://doi.org/10.1111/j.1533-2500.2012.00547.x

28.Lima TBWe, Albuquerque JR, Fagundes MG, Coutinho CCC. Prevalence of musculoskeletal complaints and quality of life among administrative technicians. Rev. Bras. Med. Trab.2020;18(1):45-50. https://doi.org/10.5327/Z1679443520200445