Original Article

Quality of life of workers who underwent work adjustments and adaptations in a public state university

Qualidade de vida dos trabalhadores readequados e readaptados de uma universidade estadual pública

Calidad de vida de los trabajadores readecuados y readaptados a una universidad pública del estado

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ABSTRACT

Objective: Assess the quality of life of workers who underwent work adjustments and adaptations in a public state university

Methods: This was a cross-sectional study carried out with 92 employees from a public state university. Data were collected from November 2012 to May 2013 using a population characterization questionnaire and the Medical Outcome Study 36-item Short Form, and then underwent a univariate and bivariate analysis through the Mann-Whitney test.

Results: The two domains that obtained the best scores were social function and emotional performance, whereas the ones with the worst scores were physical performance and body pain. Most workers did not note changes in their health status in the last year.

Conclusions: The quality of life scores, in general, were not high, especially in physical aspects. Therefore, measures need to be implemented to evaluate the effectiveness of work adjustments and adaptations, in order to improve occupational health.

Keywords: Workers. Occupational health. Work adaptation. Quality of life. Nursing.

RESUMO

Objetivo: Avaliar a qualidade de vida dos trabalhadores readequados e readaptados de uma universidade estadual pública.

Métodos: Estudo transversal, realizado com 92 servidores de uma universidade estadual pública. Os dados foram coletados de novembro de 2012 a maio de 2013 por meio do questionário de caracterização da população e do *Medical Outcome Study* 36-item *Short Form,* submetidos à análise univariada e bivariada por teste *Mann-Whitney*.

Resultados: Os dois domínios que apresentaram melhores escores foram a função social e o desempenho emocional. Já os que apresentaram piores escores foram desempenho físico e a dor corporal. A maioria dos trabalhadores não percebeu alterações em seu estado de saúde no último ano.

Conclusões: Os escores de qualidade de vida, em geral, não apresentaram pontuações elevadas, sobretudo, nos aspectos físicos. Portanto, faz-se necessário implementar medidas que avaliem a eficácia da readequação e readaptação para promover melhorias à saúde do trabalhador.

Palavras-chave: Trabalhadores. Saúde do trabalhador. Readaptação ao emprego. Qualidade de vida. Enfermagem.

RESUMEN

Objetivo: Evaluar la calidad de vida de los empleados readecuados y readaptados de una universidad estatal pública.

Métodos: Estudio transversal con 92 servidores de una universidad estatal pública. Los datos fueron recolectados a partir de noviembre 2012 a mayo 2013 a través del cuestionario para caracterizar la población y el Medical Outcomes Study 36-Short Form elemento sometido a análisis univariante y bivariante mediante la prueba de Mann-Whitney.

Resultados: Las dos áreas que tenían las puntuaciones más altas fueron la función social y el rendimiento emocional como aquellos que tenían una peor puntuación fueron el rendimiento físico y el dolor corporal. La mayoría de los trabajadores no notaron cambios en su estado de salud el año pasado.

Conclusiones: Las puntuaciones de calidad de vida en general, no mostraron puntuaciones más altas, sobre todo en los aspectos físicos. Por lo tanto, es necesario poner en práctica medidas para evaluar la eficacia de readaptación y rehabilitación, para promover mejoras en la salud de los trabajadores.

Palabras clave: Trabajadores. Salud laboral. Empleos subvencionados. Calidad de vida. Enfermería.

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INTRODUCTION

Work is considered to be one of the fundamental elements that guide human life and, due to the space it occupies in the day-to-day life of individuals, it must be understood in economic, cultural and social terms. Through their work activities people obtain their means of support, form their identity, assign meaning to their lives and find ways to interact socially[1], and even though it is an essential element for health, it can also cause illness.

Changes that have occurred in the workplace, such as the incorporation of technology and demands for high productivity due to the capitalist system, have strongly influenced the health of workers, leading to excessive consumption of physical and psychic energy[2]. Consequently, individuals are exposed to heavy workloads, suffering and aging in their daily lives, which have an impact on the health-disease process and can cause illness among workers, result in temporary or permanent limitations and make work adjustments and adaptations necessary.

In this study, work adaptation is considered to be a change in activities performed (job) or work location (place of work), with the adjustment tailored to the work limitations. Work adjustment, in turn, involves a procedure to limit the duties of the job position held, due to definitive health restrictions on a worker, provided he or she remains in the same position[3].

These limitations can affect the quality of life and health status of workers. The concept of health, amplified in the VIII National Health Conference[4], not only refers to the absence of pathologies, but also to access to means of income, employment, work and other aspects, in addition to being determined by the social context. Therefore, a subjective assessment of aspects related to the quality of life of individuals enables managers to detect possible situations that would affect the health of these individuals[5].

Quality of life assessments can be done through a qualitative or quantitative approach. With respect to the latter, the instruments used can be divided into two groups: specific and generic.

Among the generic instruments widely applied to assess quality of life is the Medical Outcomes Study 36-item Short Form (MOS SF-36), consisting of a questionnaire with quality of life measurements, which was translated into Portuguese and validated through a sample of people with rheumatoid arthritis[6]. Various studies have addressed the quality of life of workers using the MOS SF-36[6-11], but did not focus their research on workers who have undergone work adjustments and adaptations.

In addition, during the time when one of the authors was doing her residency in nursing services management, she was working in Specialized Services for Occupational Safety and Health in a state university, where she noted a large number of workers with restrictions resulting in work adjustments and adaptations. The fact that this was a public institution where workers tend to continue working for a long time after such processes sparked an interest in assessing the quality of life of this group.

This gave rise to the following research question: What is the quality of life of workers who have undergone work adjustments and adaptations in a public state university like? This study, therefore, sought to assess the quality of life of workers who have undergone work adjustments and adaptations in a public state university.

METHODS

This study stemmed from a dissertation entitled "Health status and stress level among workers who have undergone work adjustments and adaptations in a public state university"[7]. A cross-sectional, descriptive-exploratory study, with a quantitative approach, was conducted in a public state university located in the northern part of the state of Paraná.

The study population was composed of workers who were engaged in an administrative process to adjust and adapt their work. According to data from the institution's Specialized Service in Safety Engineering and Occupational Medicine, 119 workers had officially undergone work adjustments and adaptations by September 2012.

All the workers in the adjustment and adaptation process at the time of data collection were invited to participate in the study. The following individuals were excluded: eleven who had already retired; six who were on medical leave; one who had died; and five who, despite being on the list provided by SESMT, had not undergone work adjustments or adaptations, due to the process not being approved after the medical report. Thus, the population was defined as N=92.

Data were collected between November 2012 and May 2013, using two instruments. The first entailed the sociodemographic and occupational characterization of the workers.

As far as the occupation of the workers already in the process of adjustment or adaptation at the time of data collection, it was necessary, due to the variety of occupations, to group workers according to their job function, characterizing them as: administrative (typist, clerk for serving the public, secretary and organization of reports), professor (teacher, educator, academic advisor), general services (cleaning, security, seamstress, mason, kitchen assistant, janitor, maintenance assistant, warehouse, distribution of hospital materials and painter) and technicians (nursing technician, nursing aide, laboratory technician and X-ray technician).

The second instrument, entitled Medical Outcomes Studies 36-item Short Form (MOS SF-36), applied for the purpose of assessing the workers' quality of life, is a multidimensional questionnaire consisting of 36 items grouped into eight scales: functional capacity; physical aspects; pain; social aspects; mental health; emotional aspects; vitality and overall health status. The final score ranges from zero to 100 points, where zero corresponds to the lowest overall health status and 100 to the best health status. Each domain is examined separately. The instrument's validation and cultural adaptation in Brazil was done by Ciconelli[5].

The eight domains assessed by MOS SF-36 were grouped into two concepts: physical component encompassing physical function, physical performance, body pain and overall health. The second instrument involved the mental component, comprising mental health, emotional performance, social function and vitality[5].

Data were entered twice into Microsoft Excel and analyzed using the program Statistical Package for the Social Sciences (SPSS) version 20.0, through a descriptive, univariate and bivariate technique, with application of the Mann-Whitney test and a significance level of 5%. Following are the stages for calculating the SF-36 scores[12]:

1. Calculation of each domain (functional capacity, physical aspects, pain, overall health status, vitality, emotional aspects and physical health) and sum of the points obtained for each item in the corresponding domain, for each worker.

2. Use of possible minimum and maximum values for each item to calculate the transformed value, through the formula:

Transformational scale:

$$\left(\frac{SUM - MIN}{MAX - MIN}\right) \times 100$$

The study was conducted in accordance with the ethical precepts of National Health Council Resolution No. 466/2012[13] on research involving human subjects, in compliance with Ethical Consideration Presentation Certificate (CAAE) no. 0160.0.268.268-10. All the interviewees received and signed a free and informed consent form.

RESULTS

Among the 92 workers who had undergone work adjustments and adaptations, 68 (73.9%) were women. The mean age was 49 years and the median 50, ranging from 28 to 67 years. The majority were married and 53 (57.6%) were high school graduates.

Among the eight domains assessed by the MOS SF-36, social function (73.4 points) and emotional performance (70.4 points) obtained the best scores. On the other hand,

Table 1 – Values for the domains assessed by theMOS SF-36 in relation to workers who underwent work adjustments and adaptations in a public state university – Brazil – 2013

Variables	Mean	Minimum	Maximum	Standard deviation
Physical function	63.9	10.0	100.0	28.5
Physical performance	60.4	0.0	100.0	38.0
Body pain	60.3	24.5	100.0	24.0
Overall health	60.7	15.0	95.0	18.9
Vitality	60.6	0.0	100.0	21.7
Social function	73.6	0.0	100.0	21.2
Emotional performance	70.4	0.0	100.0	32.0
Mental health	68.7	12.0	100.0	17.7

Source: Research data, 2013

Table 2 – Health assessment in comparison to the previous year for workers who underwent work adjustments and adaptations in a public state university – Brazil – 2013

Perception of health compared to the previous year	N	%
Much better now than one year ago	22.0	23.9
A little better now than one year ago	29.0	31.5
Almost the same as one year ago	32.0	34.8
A little worse now than one year ago	7.0	7.6
Much worse now than one year ago	1.0	1.1
Did not answer	1.0	1.1
Total	**92.0**	**100.0**

Source: Research data, 2013

Table 3 – Scores in the domains assessed by the MOS SF-36 in relation to the job function of workers who underwent work adjustments and adaptations in a public state university – Brazil – 2013

Variables	Job Function			
	Administrative	Professor	General services	Technical
Physical function	65.0	80.0	62.6	61.2
Physical performance	52.5	66.7	58.9	70.0
Body pain	65.5	70.7	68.9	74.0
Overall health	55.0	63.3	61.9	63.0
Vitality	56.5	61.7	62.0	61.2
Social function	72.5	75.0	71.9	78.1
Emotional performance	71.7	72.5	67.5	75.0
Mental health	62.8	75.3	69.3	71.2

Source: Research data, 2013

the worst scores were found for body pain (60.3 points) and physical performance (60.4%), followed by vitality (60.6%), as presented in Table 1.

Workers responding to the questionnaire comparing their current health status with last year's reported that their health was "*almost the same*", followed by "*a little better now*" in the case of 29 (31.5%) participants, as shown in Table 2.

Workers in administrative functions had the worst physical performance scores (52.5 points). In turn, professors and technicians had the lowest scores in the vitality domain (61.7 and 61.2 points respectively) and the physical performance of those who carried out general services was the most affected (58.9 points), as shown in Table 3.

Therefore, in general, body pain was the main domain undermining the quality of life of these workers, who even after work adjustments and adaptations did not report changes in health status.

DISCUSSION

The quality of life analysis of workers who have undergone work adjustments and adaptations, using the SF-36 questionnaire, found that, in general, the scores of the domains are not high, and are most affected in terms of body pain and physical performance. Therefore, institutions should plan actions to reduce musculoskeletal injuries in workers and thereby help improve their quality of life.

Nowadays, it is expected that individuals be capable of managing their health and that professionals will not apply rigid prescriptions to the activities they must carry out, but will encourage the adoption of healthy lifestyle habits[14].

However, many workers still fail to acknowledge any responsibility regarding their health and expose themselves to situations that contribute to their becoming ill, with a negative impact on job performance.

The second domain that was affected was physical performance, which may have been undermined by the presence of body pain, a situation which resulted in participants performing their activities in a limited way. Advances in technology, work place overload and inadequate infrastructure and human resources, which has intensified in the last decade, may lead to increased physical and mental risks to workers and affect job performance[2].

Most workers did not note any changes in their current health status, compared to the previous year. This result indicates that, although work adjustments and adaptations were implemented to benefit employees and enable activities tailored to their limitations, it may not be a pleasurable process for these individuals, who need to manage the changes in their job duties as well as interpersonal relationships.

The main goal of the work adjustment and adaptation process is to render the performance of workers' job activities more effective, in accordance with their limitations However, the physical and mental wear, noted in this group of employees, can generate temporary or definitive consequences and affect the way these individuals view their health status[7].

Administrative workers had the worst results in terms of physical performance. This finding is related to the fact that this is a category where the work process is characterized by the performance of repetitive movements that, over time, can affect job productivity[15]. Even after stopping such movements, the functional limitation may continue and interfere with quality of life.

In turn, workers from the operational assistance category obtained the worst score in physical performance. This result may be associated with the fact that their job activities require intense effort, work overload as exemplified by carrying excessive weight, inappropriate and uncomfortable positions, rotational shifts, shortage of human resources and insufficient infrastructure – which are also factors that can contribute to undermining the health of this group of workers[16].

Similar results were also found in a study with workers from a university institution, especially in the cleaning and maintenance sectors. Therefore, a relationship can be established between the activity performed and the discomfort identified, since the positions adopted by workers from this sector result in greater fatigue, especially, in the lower limbs[17].

In the job functions of professors and technicians, the worst domain was vitality, which may be related to an overload of activities and occupational stress that can reduce work efficiency and affect interpersonal relationships[18]. In this regard, managers should be attentive to the work routine of these employees, as well as the repercussions of the pace on psychic health, in order to avoid illness.

Work activities and routines, as well as daily responsibilities and coexisting with stressful situations, contribute to an increased psychic load that, over time, may cause workers to become ill. Therefore, collective measures need to be implemented to facilitate the work process and reduce factors that are harmful to occupational health[16], such as the development of institutional programs that involve relaxation and wellness activities, to increase the vitality of these individuals and minimize their limitations.

It is important to institute occupational health programs, with unlicensed assistive personnel assuming a key role in monitoring these situations. It is the responsibility of these professionals, together with the health team, to establish a periodic monitoring plan for individuals with low vitality, as well as include them in group actions that enable reflection on job performance difficulties.

Diagnosing quality of life domains assists managers to implement actions that will promote the health of this population, since these injuries or illnesses can lead to absenteeism. A study conducted with public servants in Ceará revealed that 33.9% of work absences were related to medical leaves, which underscores the importance of developing policies focused[19] especially on preventing diminished quality of life of these workers.

Upholding occupational health has become one of the main concerns of health managers and professionals, given the possibility of the work process generating illness and the need for functional adaptations. The occurrence of job performance-related injuries and illnesses must be identified early and adjustments should be made to work environments, since quality of service depends directly on the well-being of workers and preserving their health[20].

CONCLUSIONS

The quality of life scores for workers who have undergone work adjustments and adaptations were gen-

erally not high, especially in reference to physical aspects, with worse scores in physical performance and body pain. In turn, the best domains in the assessment were related to social function and emotional performance. Therefore, measures need to be implemented to evaluate the effectiveness of work adjustments and adaptations, so that these processes can improve occupational health.

Quality of life assessments are an important management tool to enable unlicensed assistive personnel to map out preventive actions and interventions to avoid individuals from developing illnesses as a result of work activities. They also provide support for formulating institutional policies to promote maintenance of the health of workers who have undergone work adjustments or adaptations.

The study had limitations related to sample size, shortage of studies with this population and outdated data in regard to workers who have undergone work adjustments and adaptations. Nevertheless, despite these limitations, the study is relevant for its contributions to nursing, especially for encouraging managers to focus attention on assessing the functional adjustment and adaptation process, in order to verify its effectiveness in terms of improved health status and, consequently, the quality of life of this population.

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