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ASSOCIATION BETWEEN OCCUPATIONAL STRESS AND USE OF PSYCHOTROPIC DRUGS BY HEALTH FACULTY

Associação de estresse ocupacional e uso de psicotrópicos por docentes da área da saúde

Asociación entre el estrés ocupacional y el uso de psicotrópicos por docentes del área de la salud

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ABSTRACT

Objective: To analyze the association between occupational stress levels and use of psychotropic drugs by health faculty. **Methods:** This quantitative analytical cross-sectional study was conducted from November to December 2018 at a private institution in the state of Goiás where 48 health professors answered a sociodemographic and occupational questionnaire, the workplace stress scale and a questionnaire on the use of psychotropic drugs. Data were analyzed using descriptive measures and the Chi-squared test. **Results:** High levels of occupational stress were found in 39.6% of the sample. Occupational stress was significantly associated with the following variables: current or previous use of psychotropic drugs (0.037), perception of quality of life improvement after drug therapy (p=0.041) and risky activities at work (p=0.036). **Conclusion**: The use of psychotropic drugs by university professors was significantly associated with occupational stress in the sample analyzed.

Descriptors: Psychotropic Drugs; Faculty; Occupational Stress; Education, Higher; Occupational Health Program.

RESUMO

Objetivo: *Analisar a associação entre o nível de estresse ocupacional e uso de psicotrópicos por docentes da área de saúde.* ***Métodos:*** *Estudo transversal, analítico e quantitativo, realizado entre novembro e dezembro de 2018, em uma instituição privada do estado de Goiás, onde 48 docentes universitários da área de saúde responderam a questionários sociodemográfico e profissional, Escala de Estresse no Trabalho e questionário sobre o uso de psicotrópicos. Analisaram-se os dados por meio de medidas descritivas e teste de qui-quadrado.* ***Resultados:*** *Foi detectado alto nível de estresse ocupacional em 39,6% da amostra. Houve associação significativa entre estresse ocupacional e as seguintes variáveis: uso atual ou prévio de medicação*

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psicotrópica (0,037), percepção de melhora da qualidade de vida após terapia medicamentosa (p=0,041) e realização de atividades de risco no ambiente de trabalho (p=0,036). ***Conclusão:*** *O uso de psicotrópicos pelos docentes universitários está significativamente associado ao estresse ocupacional na amostra em questão.*

Descritores: *Psicotrópicos; Docentes; Estresse Ocupacional; Educação Superior; Programa de Saúde Ocupacional.*

RESUMEN

Objetivo: *Analizar la asociación entre el nivel de estrés ocupacional y el uso de psicotrópicos por docentes del área de la salud.* ***Métodos:*** *Estudio transversal, analítico y cuantitativo realizado entre noviembre y diciembre de 2018 en una institución privada del estado de Goiás de la cual 48 docentes universitarios del área de la salud han contestado a cuestionarios sociodemográfico y profesional, Escala de Estrés Laboral y cuestionario sobre el uso de psicotrópicos. Se analizaron los datos a través de las medidas descriptivas y de la prueba chi-cuadrado.* ***Resultados:*** *Se ha detectado alto nivel de estrés laboral en el 39,6% de la muestra. Hubo asociación significante entre el estrés laboral y las variables: uso actual o previo de medicación psicotrópica (0,037), percepción de la mejora de la calidad de vida después de la terapia medicamentosa (p=0,041) y la realización de actividades de riesgo en el ambiente laboral (p=0,036).* ***Conclusión:*** *El uso de psicotrópicos por los docentes universitarios asociase de manera significante al estrés laboral en la muestra investigada.*

Descriptores: *Psicotrópicos; Docentes; Estrés Laboral; Educación Superior; Programa de Salud Laboral.*

INTRODUCTION

The National Higher Education Evaluation System was created in 2004 in Brazil to evaluate Higher Education Institutions based on three dimensions: didactic and pedagogical organization; infrastructure; faculty and students[1,2].

With regard to faculty, higher education institutions are also evaluated based on the degrees and training of their professionals and also their actions in terms of teaching, research, extension and academic scientific production, which is directly interconnected to the educational work developed by professors and, in addition to other indicators, will compose the conceptual rating of the higher education course[2,3].

The pressure to prove the professional's efficiency to complete the methods of institutional evaluations is stressful for the professor. Thus, the first definitions of stress date back to the mid-1950s and it was initially classified as a non-specific neuroendocrine response of the body. Later, however, it was considered a response that involved other systems of the human body, especially the cardiovascular, pulmonary and renal systems. When such systems are affected there is a great risk for the development of diseases that prevent or limit workers' permanence in the workplace. Then, stress becomes a public health problem[1,4].

This pressure can lead to physical and emotional exhaustion and it mainly affects the mental health of professors who present high levels of stress, which creates a cycle in which teaching activities associated with daily social stressors lead them to apathy, conformation and accommodation, which results in dissatisfaction and frustration[5,6].

The problem is even more complex in higher education professors in the health field because their basic training does not offer subjects focused on teaching. Moreover, many of them start their career performing health care activities, i.e., clinical practice based on empiricism, thus leading to stress in the transition to the practice of educational diffusion[7].

The search for immediate solutions to problems that affect people's daily lives is one factor that makes drug treatment seem a quick, effective and resolute alternative in solving daily conflicts as opposed to the challenges of prolonged and "painful" psychological treatment because it will place the individual as the protagonist of his/her global improvement that shall be achieved through the confrontation of daily premises and stressors. Thus, the use of psychotropic drugs has increased worldwide in recent decades[7].

Psychotropic substances act on central nervous system (CNS) functions. Stimuli are sensed through sense organs and information reaches the CNS, which processes, interprets, elaborates and memorizes information and makes associations, among other things. All these processes occur in a matter of milliseconds and are repeated thousands of times[7,8]. Similarly, and according to the type of action, psychotropic drugs can cause several types of effects, such as anxiety, drowsiness, excitement and seizure, which are in opposition to the momentary well-being they may cause[8].

Professors face intense workload, accumulation of work contracts, devaluation of the profession and excessive demands, which are strengthened by the Brazilian methods of curriculum evaluation[7,8]. Faced with the possibility of

professors' physical and mental illness, one might argue that there may be a negative impact on their productivity at work and student learning, which can lead to absenteeism and presenteeism and overload the team of professors who remain at work. Thus, understanding health promotion as the set of public health policies, plans and programs whose actions seek to prevent people from exposing themselves to disease conditioning and determining factors, the conditions that lead to professors' illness and its consequences should be analyzed for further development of preventive actions in the field of higher education[7,8].

In addition, it is necessary to implement preventive and health promotion actions in the workplace focused on occupational stress and its effects on professors' lives. Thus, the present study is relevant in view of professors' high levels of stress, which leads to occupational illness and, therefore, to moral distress, since they are knowledge multipliers and are of fundamental importance for the training of new professionals who will work in the health field. If they are ill, how will they provide a professional conception for students embarking on their professional careers who will soon be in the job market?

Thus, the aim of the present study was to analyze the association between occupational stress levels and use of psychotropic drugs by health faculty.

METHODS

This quantitative analytical cross-sectional study was conducted at a private university in the state of Goiás between November and December 2018.

The study included health faculty (Nursing, Pharmacy or Physiotherapy) working in the institution during the data collection period. Professors who worked only in internships (without participation in theoretical teaching), those who reported previous use of psychotropic substances, and those on vacation or on leave were excluded.

Data were collected using the following self-administered instruments: a questionnaire to describe the professors' sociodemographic and professional profile, the workplace stress scale (WSS)[9] and a questionnaire about the use of psychotropic substances. These instruments were distributed in the workplace and should be completed at home after the participants were explained about the research objectives and signed the Free Informed Consent Form. The date of return was scheduled with each teacher according to their availability by researchers previously trained for collection.

The author-developed sociodemographic and professional questionnaires addressed the following variables: date of birth; sex; marital status; presence of children; academic training; main course in which he/she works; job in the health field; time working in the health service, time working as a professor, and time working in the higher education institution; level of education; weekly working hours; work regime (statutory, temporary, labor laws consolidation (*Consolidação das Leis Trabalhistas - CLT*) and voluntary); number of employment relationships; daily working hours; total monthly income in minimum wages; job satisfaction; and risk perception regarding work practice.

The WSS was developed and validated in 2004[9] with 437 workers from different public and private organizations to measure the overall occupational stress level. It consists of 23 items arranged in a five-point Likert scale where: 1 - totally disagree, 2 - disagree, 3 - partially agree, 4 - agree and 5 - totally agree. The sum of the scores on each item is translated into occupational stress scores, and the higher the score, the higher the stress presented by the person at work. Considering the overall mean for the study population, stress is dichotomized into low stress (when the person has a stress score below the mean value for the population) and high stress (when the person has a stress score above the mean value for the population). The items with the highest mean values represent the situations that represent the greatest stress to professors. In the validation process, a Cronbach's alpha of 0.91 was observed for the group of 23 items of the instrument[9].

The questionnaire for the assessment of use of psychotropic substances was developed by the authors based on other studies[7,8]. It addressed the following variables: knowledge about the psychotropic drug used; current or previous use of psychotropic drugs; daily frequency of use of psychotropic drugs; influence of work activities (teaching) on the use of psychotropic drugs; use of drugs with medical indication; impact of the drug on the improvement of quality of life; feeling of drug dependence; and performance of hazardous work. These recommendations were based on the Brazilian Center for the Study of Psychotropic Drugs (*Centro Brasileiro sobre Drogas Psicotrópicas - CEBRID*)[7,8].

An Excel database (Office 2018) was created and the Statistical Package for the Social Sciences (SPSS) version 17.0 was used for data organization and analysis. Qualitative variables were described as absolute (n) and percentage (%) values and quantitative variables were described using descriptive measures: minimum and maximum values,

mean and standard deviation. Cronbach's alpha coefficient was used to analyze the internal consistency of the instruments. The association between stress and use of psychotropic drugs was assessed using the chi-squared test. The statistical significance threshold was set at $p<0.05$.

This project is part of a larger study titled Health phenomena and resilient personality in health faculty, which was approved by the research ethics committee of the Sena Aires College of Science and Education (Approval No. 2.411.169). In addition, this study complies with the Guidelines and Regulatory Standards for Research Involving Human Beings (CNS Resolution 466/12). A Free and Informed Consent Form and the data collection instruments were given only to the professors who agreed to participate. The consent form was signed in duplicate (one copy for the interviewee and one for the researcher).

RESULTS

The sample comprised 48 professors and data on the sociodemographic characterization of the health faculty are presented in Table I.

Figure 1 shows the classification of occupational stress in the health faculty.

Table I - Sociodemographic characterization of health faculty. Goiás, 2018.

Sociodemographic variables*		n(%) or Mean (SD**)
Sex (Women)		25 (52.2%)
Age (Years)		42.5 (6.9)**
Religion (Catholic)		21 (45.7%)
Monthly income (4-6 minimum wages)		14 (31.8%)
Marital status (Single)		23 (50.0%)
Education	Specialization	17 (37.8%)
	Masters	16 (35.6%)
Time as a professor	More than 10 years	17 (37.0%)
	1-5 years	13 (28.3%)
Time working in the institution	Less than 1 year	20 (43.5%)
	1-5 years	14 (30.4%)
Work regime (CLT)		39 (84.8%)
Weekly working hours		30 (17.0)**
Another job (Yes)		31 (67.4%)
Have you received training to work in the HEI? (No)		24 (50.0%) ***
Main activity while not working in the HEI? (Works at a different place)		25 (41.0%)
Performance of hazardous work (Yes)		24 (52.2%)
Job satisfaction (Satisfied)		34 (73.9%)

*Only the predominant categories for each variable are presented; ** Standard deviation; *** 3 people did not answer the question. HEI: Higher Education Institution, CLT: labor laws consolidation.

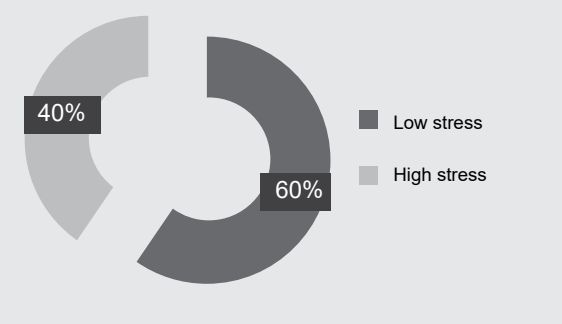

Figure 1 - Occupational stress classification among the health faculty. Goiás, 2018.

The figure shows a predominance of low occupational stress among the university professors, i.e., 60.0% of the professors analyzed presented stress levels below the overall mean value for the study population.

Table II shows the stressors that exhibited the highest mean scores among professors according to the WSS.

Table II - Stressors with the highest mean scores among the health faculty according to the WSS. Goiás, 2018.

Items (Stressors)	Mean	Standard deviation
The way tasks are distributed in my field has made me nervous.	2.7391	1.25
I am bothered by the lack of information about my tasks at work.	2.4783	1.31
I feel annoyed by the lack of disclosure of information about organizational decisions.	2.4000	1.15
Insufficient time to perform my work activities makes me nervous.	2.3721	1.17
The type of control at my work annoys me.	2.2826	1.11

Table II shows that the items which exhibited the highest mean scores and, therefore, which represent the greatest stress to the health faculty are related to: the distribution of tasks; lack of information about the assigned tasks; failure to disclose information related to company decisions; the perception of insufficient time to meet the demands received and the superiors' control style.

Table III presents the results of the analysis of the association between occupational stress level, performance of hazardous work and psychotropic substance use profile among university teachers.

Table III - Association between occupational stress level, performance of hazardous work and psychotropic drug use profile among health faculty. Goiás, 2018 (n=48).

Use of psychotropic drugs		Stress		
		Low n (%)	High n (%)	p value
Do you know what a psychotropic drug is?	Yes	26 (57.8%)	17 (37.8%)	0.987
	No	1 (2.2%)	1 (2.2%)	
Current or previous use of psychotropic drugs	Yes	8 (17.8%)	11 (24.4%)	**0.037***
	No	19 (42.2%)	7 (15.6%)	
Daily frequency of use of psychotropic drugs**	Once a day	5 (15.6%)	8 (53.3%)	0.857
	Twice a day	0 (0.0%)	0 (0.0%)	
	Three times a day	1(6.7%)	1(6.7%)	
Influence of work activities (teaching) on the use of psychotropic drugs	Yes	3 (15.8%)	4 (21.1%)	0.960
	No	5 (26.3%)	7 (36.8%)	
Use of the drug with medical indication**	Yes	7 (36.8%)	10 (52.6%)	0.810
	No	1 (5.3%)	1 (5.3%)	
Impact of the drug on quality of life improvement**	Yes	5 (26.3%)	8 (42.1%)	**0.041***
	No	3 (15.8%)	0 (0.0%)	
	Maybe	0 (0.0%)	3 (15.8%)	
Feeling of drug dependence**	Yes	1 (5.3%)	1 (5.3%)	0.734
	No	6 (31.6%)	7 (36.8%)	
	Maybe	1 (5.3%)	3 (15.8%)	
Performance of hazardous work	Yes	11 (23.9%)	13 (28.3%)	**0.036***
	No	17 (37.0%)	5 (10.9%)	

*Statistically significant difference (Chi-squared test). **Number corresponding only to those who use psychotropic drugs (n=19)

There is a significant association between current or previous use of psychotropic drugs and the level of stress at work. Professors who do not use psychotropic drugs (42.2%) have a lower stress level (p=0.037). Those who realize that the drug improves their quality of life have a higher level of stress at work compared with the others (42.1%)

(p=0.041). Moreover, those who perform hazardous activities in the workplace have a higher stress level (28.3%) when compared with those who do not perform this type of activity (10.9%) (p=0.036).

DISCUSSION

Interestingly, most of the interviewees in the present study were women, single and Catholic. These findings are in line with those reported in a study conducted in the metropolitan region of Goiânia, Goiás, where there was a predominance of female (54.4%), single (35.1%) and Catholic (50.9%) professionals. In similar studies, women also predominated in teaching activities in the health field, which is a matter of concern since stressful conditions and stressors are more pronounced in women due to the cumulative workload generated by family demands associated with professional demands, which often leads to neuropsychosocial illness and thus impair work performance, daily practices and the confrontation of organizational problems[10,11].

In the present study, medication is a therapeutic process that becomes unreal and that is perceived by professors as a benefit, an aid in controlling their feelings in relation to their work activity. But with regard to stress, it is observed that medications do not significantly contribute to stress reduction. Other studies that analyzed the effect of this medication on the life of these individuals show that it is harmful in the long and short term, but the literature does not discuss these effects from the perspective of professors[8,12-14].

The professors analyzed in this study have been working in the HEI for less than 1 year (43.5%) and other employees have been working for more than 10 years (37%), with a mean workload of 30 hours per week and CLT work regime (84.8%). This contrast between new employees and existing employees shows that the HEI analyzed in the present study has undergone continuous changes over the past year and that these changes can lead existing employees to experience stress and fear of dismissal due to non-adaptation to new educational standards, thereby causing losses in daily working practices[2].

In all, 67.4% of the study participants have another job, which is justified by attempts to maintain a financially comfortable standard of living. Thus, most education and health professionals end up having more than one job, which, consequently, increases their workload and is one of the main factors that contributes to stress because the longer the professional is subjected to the stress-inducing environment, the greater is the chance of becoming ill[2,5].

In general, professors' work and knowledge are taken into consideration in curricular evaluations to which these professionals are submitted by HEIs. However, they need to have a lower workload and limited activities with the guarantee of financial aid and appreciation of their work, particularly when the search for a degree is involved[11].

We found that 50% of the professors said they had not received training to work in the HEI. Failure to receive training leads to anxiety disorders caused by something unknown that is the result of fear of the new and that will be faced without previous guidance and training in the corporate environment. This is clear as the profession is pointed by several studies worldwide as one of the most stressful professions today, which has become a public health problem related to occupational problems arising from ill professionals who trained others[2].

Of the professors analyzed in the present study, 73.9% are satisfied with their work. However, data show many professors with high levels of stress potentially related to the use of psychotropic drugs. In all, 42.1% of professors who use this type of medication said the medication improved their quality of life. The low level of stress helps to improve personal and professional satisfaction and enhance work performance[12].

The understanding of human behavior in the corporate environment has become relevant because workers' dissatisfaction can directly affect the quality of the service provided and their own health. This is due to professionals' degree of satisfaction and motivation, which is considered a reason that may affect psychological harmony and stability in the workplace[13].

A total of 39.6% of the health faculty analyzed presented high levels of stress compared with the mean value for all the professors analyzed. This amount is quite high and represents almost half of the total. Professionals who are subjected to high psychological demands and low self-control at work have a higher risk of developing physical and mental disorders due to stressors, which are generated by the increased stress at work or even increased self demanding. A health promotion policy aimed at workers' psychological and biological well-being is recommended where stress levels are high[14].

The difficulties listed in the study were related to: the way tasks are distributed in my field has made me nervous. In recent years, there has been a considerable growth of private higher education in Brazil at the expense of many changes in the professors' work routine, which justifies these results. In addition, there is a lack of preparation of new hires from *sensu strictu* and *sensu lato* graduate programs without proper preparation for teaching[15].

Other relevant difficulties faced by the professors were: feeling uncomfortable with the lack of information about tasks at work; feeling irritated by the failure to disclose information about organizational decisions; and difficulties related to time, which is considered insufficient to perform the assigned work activities and hence cause nervousness. It is important to emphasize that the creation of spaces designed for workers to share everyday experiences in organizations is extremely beneficial as it leads to a better understanding of what they feel in the face of difficulties[16].

In terms of management, one realizes the importance of building in the organization an ambience of social support and a positive relational environment at work, both between colleagues and between subordinates and managers. In that regard, higher education organizations, especially those in the health field, should develop management practices that adopt the effective participation of workers in the work processes so as to favor well-being and the promotion of mental health[17].

The type of control at work also irritated the professors analyzed in this study and also represented a determining factor in such a way that dissatisfaction differs at each occupational level and is related to the sense of autonomy and control that the professional has when performing their tasks. Furthermore, some of the main risk factors for dissatisfaction were the low chances of participation and the difficulties in controlling their own tasks[13-18].

With regard to the association between the level of occupational stress, performance of hazardous work and psychotropic drug use profile, the present study found a significant association between current or previous use of psychotropic drugs and level of stress at work, i.e., professors who do not use psychotropic drugs (42.2%) have a lower stress level (p=0.037).

The level of stress can impair professionals because the pressure and stress experienced in their work environment does not prevent them from trying their best to secure their job even in the face of work overload, conflicts, professional devaluation and double working hours. However, all these factors contribute to the use of psychotropic substances by the professionals[19,20].

Those who realized that the drug improves their quality of life had a higher level of stress at work than the others (42.1%) (p=0.041). According to the Ministry of Health, at least 23 million people in Brazil use or will use psychotropic drugs at least once, and they will be given by mental health services[21].

It was also observed that professors who think they perform hazardous activities in the workplace have a higher stress level (28.3%) when compared with those who do not have this perception regarding this type of activity (10.9%). The risks caused by stress can be understood in many ways, not only in terms of the physical integrity of individuals, but also taking into consideration their psychological factors and their physical health. The human being is subject to damage when submitted to a great load of stressors, and this can have terrible consequences if not properly treated[20-23]. In addition to drug treatment, it is recommended that professionals have a period of leisure, which should be understood and perceived as a primordial action for professors' health promotion and reduction of occupational stress.

Therefore, the excessive use of medications and polypharmacy may be predictive factors for decreased quality of life and longevity due to unawareness of adverse effects. In this context, these factors appear as a public health problem requiring the implementation of effective and inherent public policies to reduce medicalization and enhance the use of alternative methods, thus promoting alternatives for coping with experienced praxis and significant improvement of the individual's moral suffering[24-26].

Excessive stress can also be a risk to business survival as operating costs rise due to reduced productivity, workplace accidents, waste of materials, increased personnel shortages and significant health care expenses[20].

The limitations of the study were related to insufficient publications on occupational illness among professors, which hindered a broad discussion based on recent epidemiological data about the stressors related to the theme.

Thus, there is a need for measures that can remedy the use of psychotropic drugs and reduce the occupational stress among health professionals working in higher education institutions. Further research in the field is needed.

CONCLUSION

The use of psychotropic drugs by the health faculty analyzed is significantly associated with occupational stress in such a way that professors with higher stress levels currently use or have used psychotropic drugs.

CONTRIBUTIONS

All authors participated in the study conception and design; data acquisition, analysis and interpretation; and the writing and/or revision of the manuscript.

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