



WORK ORGANIZATION: IMPACT ON STRESS LEVELS OF NURSES IN A UNIVERSITY HOSPITAL

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ABSTRACT

Hospital nursing has high workloads evidenced by a group of organizational stressors intrinsic to the nature of the work, which are often related to occupational diseases. The objective of this study is to evaluate the impact of work organization on the level of stress of nurses working in the Clinical and Surgical Clinic of a University Hospital. The study population consisted of 65 nurses who answered the questionnaires: Sociodemographic, occupational and clinical profile; Nursing Stress Inventory and the reduced Brazilian version of the Job Content Questionnaire. The Chi-square test for stress and work shift was not significant ($P > 0.05$) where the stress level was present in the two shifts. When comparing stress and the employment contract, the difference was significant with $P = 0.02$, with statutory employees having a high level of stress in comparison with the contractors. Skeletal muscle pain had a significant association ($P < 0.001$) with the presence of stress. The results of the analysis of the demand and the control to which the nurses are submitted in their activities show 28% with low wear, 21% active work, 36% passive work and 15% high wear. When analyzing organizational risk factors that presented a significant statistical difference in the Chi-square test with $p < 0.05$, they were: poor infrastructure, lack of material needed for work, working

in an unhealthy environment, lack of human resources; working with unprepared people; feeling powerless about the tasks to be performed; feeling emotional wear with work. It can be concluded that the prevalence of work-related stress in the studied group is present in most nurses. Karasek's demand-control model analysis reveals that the majority of the population is concentrated in the quadrants of health risk, high wear and passive work. Therefore, it is suggested that the stressors based on the complaints of the professionals described herein be evaluated by the managers, so that they are sensitized and thus seek actions that ameliorate the stress of the nursing professionals, so that they exercise their work with efficiency, pleasure and dignity.

KEYWORDS: Organization of work, Stress, Nursing. Ergonomics.

1. INTRODUCTION

Stress, as a type of stimulus, is essential for the execution of all daily activities, including work, and its complete absence, as well as its excess, can be detrimental to health. However, the persistent presence of daily stress at work can lead to a pathological condition, giving rise to transient disorders such as occupational stress or even serious illnesses (ABREU, 2002).

The phenomenon of stress in the workplace is increasingly evident among nurses, highlighting the need for organizations to adopt people management procedures (policies and practices) aimed at promoting the health of their employees (GOULART JUNIOR et al., 2014).

The work of nurses in the University Hospital is characterized by care for critical patients and allows the perception that some inherent characteristics of the nursing profession may contribute to the presence and level of stress. There are frequent complaints about workload, service organization, and shift work, leading to fatigue and stress among nurses.

2. OBJECTIVES

Assess the impact of work organization on the stress levels of nurses working in both day and night shifts in the Medical and Surgical Clinics of a University Hospital.

3. MATERIALS AND METHODS

The population of this study consisted of 65 nurses from the inpatient units of the medical and surgical clinics at the Hospital das Clínicas of UFPE. Despite working in different sectors, these two groups of nurses perform similar tasks.

Questionnaires were used to characterize the studied sample regarding sociodemographic, occupational, and clinical profiles; the Stress Inventory in Nurses; and the reduced Brazilian version of the "Job Content Questionnaire" adapted for Brazil. The Stress Inventory in Nurses (IEE) was developed by Stacciarini and Tróccoli (2000) for application with nurses. It is a questionnaire composed of 44 questions distributed across three domains: Interpersonal Relationships (IR), Stressful Career Roles (SCR), and Intrinsic Work Factors (IWF). The Job Content Questionnaire is a model that relates worker control levels over their own work and psychological demands arising from the work environment, as well as the repercussions on the psychological and organic structure of these workers. It posits that occupational stress results from the interaction between psychological demands, less control in the work process, and less social support received from colleagues and supervisors in the work environment (KARASEK; THEORELL, 1990).

Statistical analysis of the data was performed using SPSS 19.0 software. The Shapiro-Wilk test was used to assess data normality. The identification of the association between stress levels and organizational variables was conducted using the Chi-Square test, with a significance level of 5% adopted for all tests.

4. RESULTS AND DISCUSSION

A total of 65 nurses participated in this study, with the majority being female (83%), and the average age observed among the nurses was 36.09 years (SD 6.86). The length of service in the researched hospital was evenly distributed between ≤ 2

years (49.1%) and > 2 years (50.9%). Regarding the work shift, 43.4% worked the morning shift, and 56.6% worked the night shift. Complaints of musculoskeletal pain associated with the activity were reported by 79.2% of the nurses.

The prevalence of work-related stress was high, with 88.8% of the nurses experiencing some level of stress. Among these, 49.1% had a low level of stress, 34% had a moderate level of stress, and 5.7% had a high level of stress. Only 11.2% of the nurses did not exhibit stress related to their activity. Similar results were evident in studies that assessed nurses providing care in Intensive Care Units, Emergency Rooms, and various clinic wards, reporting a high level of stress among workers (ANTONIOLLI et al., 2017; BRITO, 2017; SANTOS et al., 2017).

The Chi-Square test for stress and work shift was not significant ($P > 0.05$), indicating that stress levels were present in both shifts. It was expected that night shift workers would have a lower level of stress compared to the day shift, as studies show significant influence of management on the stress levels of day shift workers (SOUZA et al., 2012).

When comparing stress and employment status, the difference was significant with $P = 0.02$, as permanent employees exhibited a higher level of stress compared to contracted employees. These results align with the study by Freitas et al. (2017), which revealed that of the 44% stressed nurses, 74% were permanent employees.

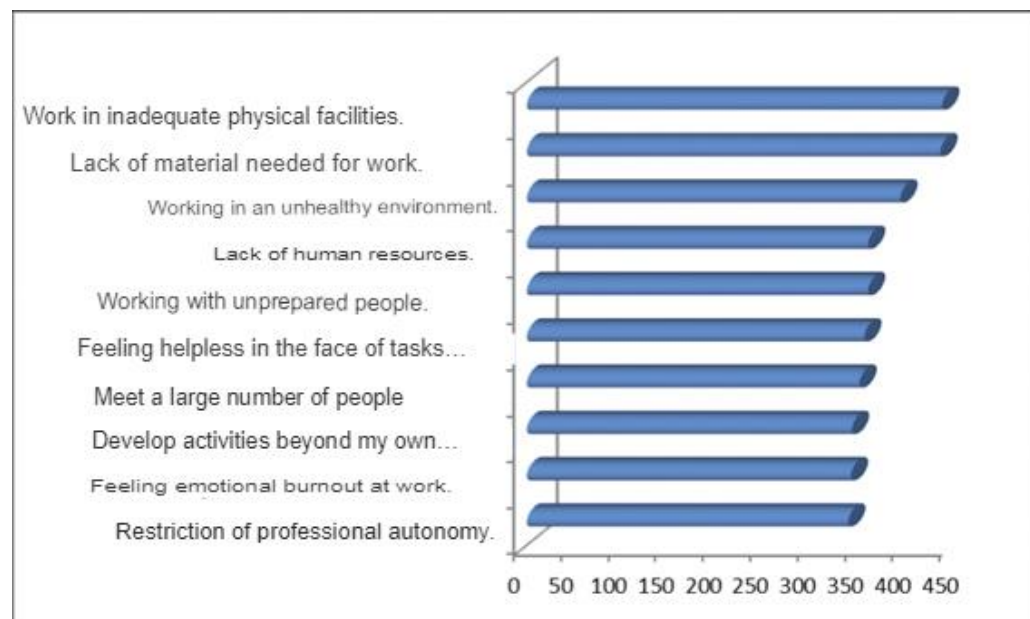
Musculoskeletal pain showed a significant association ($P < 0.001$) with stress. Individuals with complaints of pain exhibited some level of stress. This result can be justified by the literature, which suggests that both physical and mental aspects have been implicated in the development of musculoskeletal disorders in nursing workers (BERNAL et al., 2015; DAVIS and KOTOWSKI, 2015).

The results of the analysis of the demands and control to which nurses are subjected in their activities show 28% with low strain, 21% active work, 36% passive work, and 15% high strain. It is noteworthy that passive work, combining low demand and low control, indicating a highly repetitive work process with low autonomy and few opportunities for new learning, was the category that included the highest number of nurses ($n=19$; 36%). Passive work is considered the second most

problematic exposure to health, as it does not allow the worker to develop, leading to a gradual atrophy of skills (ALVES et al., 2004). It's worth noting that when summing the percentage of workers engaged in passive work (36%) with those experiencing high strain (15%), a concentration of 51% of workers in health risk quadrants is reached (KARASEK; THEORELL, 1990; ALVES et al., 2004; URBANETTO et al., 2011).

When analyzing specific questions from the IEE, we found that the domain with the highest score was 'Intrinsic Work Factors,' followed by 'Stressful Career Roles,' and lastly, the lowest was 'Interpersonal Relationships.' Risk factors that showed statistically significant differences in the Chi-Square test with $p < 0.05$ are listed in Graph 1 according to the sum of each score obtained in the questionnaire

Graph 1 - Distribution of organizational risk factors related to stress among nurses at the Hospital das Clínicas de Pernambuco



Nurses in the study's wards often encounter poor infrastructure, affecting both patients and professionals and leading to constant complaints among nurses. The inadequate structure can hinder proper patient care due to limited space for maneuvers, inadequate lighting, excessive heat, and broken or missing objects.

Working in inadequate physical facilities is frequently classified as a stressor in other studies (BEZERRA; SILVA; RAMOS, 2012; PASSOS; SILVA; CARVALHO, 2010). This is justified by the fact that the work environment, where professionals spend a significant portion of their lives, does not provide the necessary security for them to develop their skills in the best possible way.

Regarding the lack of necessary work materials, Souza et al. (2010) reported that adaptation and improvisation negatively impact the health of nurses, leading to signs and symptoms such as fear, anxiety, irritation, pain, headache, and fatigue. At the Hospital das Clínicas de Pernambuco, the shortage of essential materials, both permanent and consumable, hinders or prevents the provision of adequate patient care. Additionally, the nurse being the team leader seems obliged to take responsibility for addressing these issues, which are not within her scope of practice.

The third most prevalent item is working in an unhealthy environment, causing high stress among nurses working in the day shift at HC and at any time in other units. It is crucial to consider that the hospital environment poses various risks to nurses, as they are professionals in direct contact with the health-disease process, requiring them to handle harmful biological agents threatening their own health. These situations generate tension, anxiety, and stress (SEEMANN; GARCEZ, 2012). Dalri's study (2013) also concluded that working in an unhealthy environment represented high stress for emergency nurses at the Hospital das Clínicas de Ribeirão Preto (SP).

Among nurses, it was identified that items such as lack of human resources, working with unprepared people, feeling powerless in the face of tasks to be performed, experiencing emotional exhaustion at work, attending to a large number of people, performing activities beyond my occupational role, and restriction of professional autonomy also cause high or moderate levels of stress.

Regarding working with unprepared people, Aquino's research (2005) with nurses from seven public hospitals in Recife showed that 56.7% of participants found it stressful. The difficulty of working with unprepared people reflects both on the organization and on the quality of nursing care provided to the patient. A study with

the nursing team of a general hospital in Minas Gerais identified that almost 60% of professionals considered working with unprepared people as a stressor (SOUZA et al., 2009), which also aligns with the present study.

Working in a team requires the commitment of each member, as if one professional fails to perform their function, another will have to take it on, increasing the workload and affecting the necessary agility in patient care (MOURA et al., 2011). Therefore, there will be a constant shortage in the team if any of its professionals are not competent enough to perform their function. According to Brito (2017), the responsibility for the actions of the nursing team lies with the nurse leader; thus, working with unprepared people jeopardizes professional activities. Therefore, the nurse is constantly under tension regarding the performance of team members, and at times, this is incompatible with the number of nurses, hindering supervision and observation of care practices.

The literature links the chain of factors associated with professional stress, as Silva (2010) asserts that nursing care in public institutions, in general, has been penalized by a lack of human and material resources, generating dissatisfaction among professionals who feel powerless and frustrated. Nurses in Zando Meghini et al.'s (2014) study report that it is difficult to attend and monitor all patients because intensive care requires technological and material support, and this deficiency hinders nursing care for these clients.

One of the main challenges of public hospitals, as highlighted by the media, is the imbalance between capacity and demand for services, resulting in overcrowding and a lack of material and human resources, leading to a burden on professionals (GRIMBERG et al., 2015).

To conclude, among the ten factors most contributing to nurses' stress in this study, the restriction of professional autonomy also had significant representation. Despite autonomy being crucial in the nurse's work process, there are noticeable restrictions on its autonomous practice, hindering professional growth and diminishing professional recognition (SANTOS; MONTEZELI; PERES, 2012). The lack of necessary autonomy for decision-making becomes a significant anxiogenic

factor, permeating the daily lives of nurses. This organizational characteristic can simultaneously generate worker dissatisfaction, an important element for professional performance (OLIVEIRA, 2012).

5. CONCLUSION

The prevalence of work-related stress in the studied group is present in the majority of nurses. The analysis of Karasek's demand-control model reveals that most of the population falls into the health-risk quadrants, high strain, and passive work categories. The main occupational risk factors in nurses' activities include: lack of necessary work materials, working in inadequate physical facilities, working in an unhealthy environment, being responsible for the quality of the institution's service, as well as restrictions on professional autonomy, undefined role of the nurse, a sense of powerlessness in the face of tasks, working with unprepared individuals, emotional strain from work, physical effort to fulfill the job, and a lack of human resources; all of which are present in nurses' activities. In light of this, it is suggested that the stressors based on the complaints of the professionals described here be evaluated by managers, so that they become aware and seek actions to alleviate the stress of nursing professionals, enabling them to perform their work with efficiency, pleasure, and dignity.

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