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Psychosocial Aspects of Work and Burnout Syndrome in Intensive Care Nurses

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ABSTRACT

Goal: To estimate the prevalence and investigate the association between psychosocial aspects of work and Burnout Syndrome in intensive care nurses in a large city in the interior of Bahia.

Methods: Cross-sectional, population-based study that used a self-administered questionnaire to investigate the psychosocial aspects of work through the Job Content Questionnaire and the prevalence of Burnout Syndrome through the Maslach Burnout Inventory.

Results: The prevalence of Burnout Syndrome was 55.4%. Emotional exhaustion was the most affected dimension among the workers studied. A strong association was observed between the passive work situation (low demand, low control) and low demand (low demand, high control) of the demand-control model and the prevalence of Burnout Syndrome in intensive care nurses.

Conclusion: The results of this study can contribute to the discussion on strategies for improving working conditions, seeking to prevent physical and mental illness among intensive care nurses.

Descriptors: burnout syndrome; prevalence; psychosocial aspects of work; intensive care nurses.

Introduction

The psychosocial aspects of work result from the conditions and organisation of work. The demand and/or intensity with which work is carried out and the worker's control and/or autonomy in carrying out their activities are the fundamental components in generating the psychosocial aspects of work. These psychosocial aspects can interfere with work performance and contribute to the emergence of health problems among workers[1].

Allied to this, the labour market has become more competitive, selecting more qualified professionals to deal with increasingly complex demands. Prolonged exposure to the factors inherent in the work process can contribute to the emergence of work-related illnesses such as Burnout Syndrome (BS)[2].

The *International Stress Management Association* (ISMA - 2019), considers that 32% of economically active workers already manifest symptoms of burnout. The World Health Organisation, in the 11th revision of the International Statistical Classification of Diseases and Related Health Problems - ICD-11, defined Burnout Syndrome as the result of chronic stress in the workplace that has not been successfully managed, receiving the code QD85[2,3].

BS is the condition in which workers experience chronic stress, directly and over a long period of time, in their work environment, in the presence of other people. It is characterised by three dimensions: emotional exhaustion, when there is a feeling of emotional and physical exhaustion; depersonalisation, with the appearance of indifferent, distant and hostile behaviour towards other people in the workplace; and ineffectiveness, with the appearance of a feeling of low professional achievement and low self-esteem. It is mainly the result of work activity, although individual factors can contribute to its development[4,5].

In the hospital environment, the Intensive Care Unit (ICU) is a complex scenario that can favour the illness of workers, including nurses who are continually exposed to various stressors. In addition to this, they carry out exhausting and tense work, which requires technical-scientific knowledge, specific skills, rationality, complex procedures, quick decision-making, constant assessment of patients and an effort to overcome physical and mental fatigue (without risking patient care)[6,7].

The demand-control model that analyses the psychosocial aspects of work, developed by Karasek, considers two dimensions that can lead to burnout at work (*job strain*): the psychological demands characterised by the pace and intensity of the work; and control, which is the ability and autonomy referred to by the worker over the work performed[8].

Demands refer to the psychological pressures to which workers are exposed and which can be triggered by the amount of work, measured in units of time and/or tasks performed. Control refers to the worker's autonomy or ability to manage their work according to their knowledge and skills. Activities that require high psychological demand and low control lead to physical and psychological exhaustion, which can develop into mental illness for the worker[8,9].

In view of the increase in cases of burnout among intensive care nurses around the world[10–13]. This study is justified because it aims to broaden understanding of the factors associated with Burnout Syndrome, recognising the existence of gaps on this subject.

Goal

To estimate the prevalence and investigate the association between psychosocial aspects of work and Burnout Syndrome in intensive care nurses in Feira de Santana, Bahia.

Methods

It was a cross-sectional epidemiological study of a population of nurses working in adult, paediatric and neonatal ICUs in the city of Feira de Santana, Bahia, from July to November 2016, using a validated, self-administered, individual instrument accompanied by a Free and Informed Consent Form (FICF). Feira de Santana is the second largest city in the state of Bahia, with a territory of 1,337km² and a population of 616,272 inhabitants[14].

All 56 intensive care nurses who worked in seven of the eight hospitals that had an Intensive Care Unit (ICU) in the municipality were studied. All nurses who had been working in one of the municipality's ICUs for at least six (06) months were considered eligible to take part in the study, in order to avoid healthy worker bias. Nurses on annual leave, premium leave, maternity leave, social security leave and those carrying out administrative activities were not included in the study. Workers who could not be found were considered losses and those who did not return the questionnaires after the deadline were considered refusals.

A pilot study was carried out in an emergency unit in the city of Feira de Santana, with the aim of checking the approximate time taken to fill in the form and the clarity of the data collection instrument. The suggestions made by the professionals were incorporated into the final data collection instrument. The work was widely publicised in all hospitals with intensive care units in the city.

In order to minimise inconvenience for the worker who couldn't interrupt her activities to fill in the questionnaire, a new date was scheduled for the duly completed questionnaire to be collected. Weekly meetings were held with the whole team to hand in and review the surveys.

For data collection, a structured and validated instrument was used, divided into blocks of questions, including information on: general identification of the study participants; psychosocial characteristics of work, measured by the *Job Content Questionnaire* (JCQ); evaluation of Burnout Syndrome by *Maslach Burnout Inventory* (MBI); lifestyle habits. Professionals who did not return the questionnaire on the scheduled date were contacted by telephone in order to minimise losses. The questionnaires were returned in sealed envelopes to guarantee secrecy and confidentiality.

The JCQ identifies two important aspects of work situations: psychological demand and control of the activity by the worker. The JCQ allows the construction of quadrants based on combinations of aspects of psychological demand and activity control; low demand (combination of low demand and high control), passive work (low demand and low control), active work (high demand and high control) and high demand (high demand and low control)[15].

To construct the demand and control indicators, the variables relating to each of these indicators were added together, taking into account the weightings provided for in the operationalisation of the model. To dichotomise demand (low/high) and control (low/high), the median was defined as the cut-off point. Based on the assumptions made in the demand-control model, work carried out in conditions of high demand and low control (high demand) was considered to be the situation of greatest exposure. At the other extreme is work with the least exposure, i.e. low demand and high control (low demand). The other combinations were considered intermediate exposure work situations[15].

The Portuguese version of the JCQ includes 41 questions: 17 about control over work (6 about skills and 11 about decision-making power), 13 questions about demand (8 about psychological demand and 5 about physical demand), and 11 questions about social support. Thirty-eight questions were measured on a scale of 1 to 4 (1 = strongly disagree; 2 = disagree; 3 = agree and 4 = strongly agree).

To identify Burnout Syndrome, we used the *Maslach Burnout Inventory* (MBI). The MBI is made up of 22 items on feelings and attitudes that cover the three dimensions of the syndrome, on a seven-point scale ranging from 0 to 6, making it possible to describe each of the dimensions independently. Professional exhaustion is assessed by nine items, depersonalisation by five and personal fulfilment by eight. For emotional exhaustion, a score ≥ 27 indicates a high level; from 17 to 26, a moderate level; and ≤ 16, a low level. For depersonalisation, a score ≥ 13 indicates a high level; from 7 to 12, a moderate level; and ≤ 6, a low level. The score related to ineffectiveness goes in the opposite direction to the others, as a score of 0 to 31 indicates a high level; 32 to 38, a moderate level; and ≥ 39, a low level.

As there is no consensus in the literature on the interpretation of the MBI scale, the results were presented according to the criteria suggested by Tucunduva et al, who characterised the presence of at least one of the three dimensions at a high level as burnout syndrome.

The data collected was double-entered to identify and correct possible typing errors, using the programme *EpiData for Windows* version 3.1 and the statistical analysis was carried out using the programme *Satistical Package for Social Science (SPSS®) for Windows*.

The data was descriptively analysed by calculating the absolute and relative frequency of categorical variables and the measures of central tendency and dispersion of continuous numerical variables.

The association between the JCQ score (main predictor variable); High Demand, Passive Labour, Active Labour and Low Demand with Burnout Syndrome (outcome variable) was investigated. The prevalence ratio (PR) was used to measure the association between the variables studied and the 95% Confidence Interval (95% CI) was used to measure the significance of the results observed.

This study was submitted to the Research Ethics Committee of the State University of Feira de Santana (CEP/UEFS) and approved under Opinion No. 1.355.188 / CAAE: 49119315.4.0000.0053, in compliance with Resolution 466/2012.

Results

A total of 59 nurses and 6 male nurses took part in the study. We considered the responses from males to be statistically insignificant, which is why we chose to study only the nurses' responses. However, among these, the total number of participants differed from the total number of responses in some variables due to losses (non-responses). The prevalence of total burnout syndrome among nurses was 55.4%.

Regarding socio-demographic variables, 61.4% (35) were aged 33 or under. With regard to marital status, 31.0% (18) were single; 55.2% (32) were married or in a stable union; 13.8% (8) were divorced, widowed or separated. Among the study participants, 51.7 per cent (30) were single. With regard to academic training, 80.8% (42) had a specialisation degree; 7.7% (04) had a master's degree; 9.6% (05) had completed a residency and 1.9% (01) had completed a doctorate. As for the unit where they worked, 50.0% (27) worked in the adult ICU, 37.0% (20) in the neonatal ICU and 13.0% (7) in the paediatric ICU. With regard to monthly income, 21.1% (12) reported a monthly income of less than R$ 3, 000.00; 59.6% (34) reported an income of between R$ 3, 001.00 and 6, 000.00; 17.5% (10) reported an income of between R$ 6, 001.00 and 10, 000.00; and 1.8% (01) reported an income of between R$ 10, 001.00 and 20, 000.00 (Table 1).

Table 1. Sociodemographic characteristics of the population of intensive care nurses, Feira de Santana, Bahia, 2016.

Sociodemographic characteristics of intensive care nurses	N*	%
Age group	57	100
≤ 33 years old	35	61.4
34 years old or more	22	38.6
Marital Status	58	100
Single	18	31.0
Married/in a stable relationship	32	55.2
Separated/widowed/divorced	08	13.8
Children	58	100
No	30	51.7
Yes	28	48.3
Academic background	52	100
Expertise	42	80.8

Sociodemographic characteristics of intensive care nurses	N*	%
Master	04	7.7
Residence	05	9.6
PhD	01	1.9
ICU Area	54	100
Adult	27	50.0
Neonatal	20	37.0
Paediatric	7	13.0
Monthly Income	57	100
≤ 3,000.00	12	21.1
3,001.00 – 6,000.00	34	59.6
6,001.00 – 10,000.00	10	17.5
10,001.00 – 20,000.00	01	1.8

Note* Valid answers excluded or ignored

The separate analysis of the Burnout Syndrome dimensions showed a prevalence of 41.0% for emotional exhaustion, followed by depersonalisation with 6.5% and ineffectiveness with 16.7%.

The prevalence of Burnout Syndrome was 44.4%, when the criterion of having a high level in at least one of the three dimensions was adopted; 42.9%, with a high level in two dimensions; no occurrence of Burnout was observed, when considering the high level in the three dimensions of the MBI (Table 2).

Table 2 - Prevalence of Burnout Syndrome and its dimensions in a population of intensive care nurses, Feira de Santana, 2016.

Emotional Exhaustion	N[1]	%
High	25	41.0
Moderate	17	27.9
Low	19	31.1
Depersonalisation		
High	04	6.5
Moderate	19	30.6
Low	39	62.9
Inefficiency		
High	10	17.0
Moderate	15	25.0
Low	35	58.3
Total		
High level of Burnout dimensions		
One dimension	26	44.4
Two dimensions	24	42.9
Three dimensions	00	0.0

Source: Own elaboration. *Valid answers, excluding those ignored

The prevalence of minor mental disorders (MPD) according to the quadrants of the Demand-Control Model, shown in Table 3, showed that among intensive care nurses the rate of MPD was higher in those allocated to the high demand quadrant (6/12 or 50 per cent) and in the active work situation (2/1

or 50 per cent), with this difference being statistically significant (p=0.01). For the other professional classes, no significant associations were found between the type of work carried out and the presence of psychological distress.

Table 3. Prevalence, prevalence ratio (PR) and respective 95% confidence intervals (95%CI) for the association between demand-control model groups and minor mental disorders in intensive care nurses in Feira de Santana, Bahia, 2016.

Demand-control model groups (JCQ)	N[2]	Prevalence %	PR[1,2]	(CI 95%)[4]
High demand	7	70.0%	1.0	_
Passive Work	4	57.1%	1.2	(2.3-13.7)
Active work	9	52.3%	1.3	(4.7-14.7)
Low demand	3	23.1%	3.0	(5.3-13.0)

Source: Own elaboration. *Valid answers, excluding those ignored

The prevalence of burnout syndrome (high level in at least one dimension) varied according to the quadrants of the Demand-Control Model. The high-demand situation (high demand and low control) showed the highest burnout prevalence, 70.0%. At the other extreme, the low-demand situation (low demand and high control) had a prevalence of 38.1%. Passive work (low demand and low control) had a prevalence of 63.6% and active work (high demand and high control) had a prevalence of 20.0%. The results showed that nurses with high-demand jobs were 3.5 (PR=3.5) times more likely to experience burnout than those with low-demand jobs (Table 3).

Discussion

The results of this study show a profile of intensive care nurses who are mostly young, predominantly female, married, without children, who have worked in the ICU for 6 years, have specialised in the area, work more in adult ICUs, and have a monthly net income of between R$3, 001.00 and R$6, 000.00.

The profile of the nurses found in this study was similar to that of other studies reviewed[16–19]. The predominance of female nursing professionals is a characteristic found in other studies[16–18] point out that Brazilian nursing comprises around 50% of health professionals, 85% of whom are nurses. The significant number of women in nursing goes back to the historical conception of the profession and is related to the principles of charity, religiosity, loyalty and passivity; allied to this, the social role historically associated with women of caring for children, the elderly, the sick and the figure of the mother-woman responsible for childbirth, caring for the sick and possessing knowledge of health practices passed down from woman to woman[19].

Other aspects found, such as being married, young, having worked in the ICU for more than five years, working on call and having a postgraduate qualification in the area, were also observed in other studies of intensive care nurses [20–22]. However, in the study by Franco et al. (2011)[23], the profile of ICU nurses differed somewhat, as they were resident professionals who had recently graduated, so 93.8% were single, the average age was 25.8 years and the time they had worked in the ICU was less than 5 years.

The prevalence of burnout among intensive care nurses was 55.4%, but when analysed separately, the exhaustion dimension showed a prevalence of 41.0%. This dimension is relevant in terms of the preliminary reaction related to the stress caused by working conditions, which is strengthened when added to overload, conflicts and interpersonal coexistence. This situation reduces the professional's energy to carry out their activities, which involve providing direct care to patients in a critical health situation, in which any failure can have severe repercussions on their clinical condition[24–26].

The prevalence of inefficacy (17.0%), the second highest prevalence, is characterised by loss of self-confidence, a sense of failure and low personal fulfilment in their work. The profile of the workers studied is in line with other studies of intensive care nurses[26–28].

In this work scenario, intensive care nurses provide care to people in a critical state of health. Thus, the high prevalence of Burnout Syndrome can trigger situations related to incapacity for work, in such a way as to jeopardise patient care. It is therefore important to recognise BS early on in order to enable individual and collective interventions[28].

Burnout showed a high prevalence in situations of high demand (high demand and low control) and passive work (low demand and low control), confirming the model's main prediction that high demand work poses a greater risk to workers' mental health. According to Karasek (1988)[8], control is associated with workers' autonomy to manage their work. Autonomy for nurses is related to their professional competence, technical-scientific knowledge and abilities to develop respect and trust among the multi-professional team.

For Costa et al[29], when professional autonomy is understood as the freedom that a profession has in relation to others, to coordinate a certain area of knowledge and carry out the work in the way it sees fit. Thus, the work of the intensive care nurse requires specific skills, scientific knowledge and logical reasoning. This tripod results in the development of respect and trust by the multi-professional team, including the doctor[30].

Passive work does not allow workers to develop and can be a factor that generates a lack of stimulation and wear and tear, favouring discontent in the workplace and the appearance of attitudes of discouragement and psychological wear and tear; it leads to psychosocial stress at work and reduces workers' ability to find solutions to the problems they experience in their work environment[31]. In Mato Grosso do Sul, a study was carried out with nursing professionals in emergency units, showing a similar outcome: 24.6% of the workers were in a passive work situation and 23.0% in a low-demand situation[9,31,32].

The situation of low demands (low demand and high control) on work is also a factor that requires vigilance, since it portrays a repetitive work process, with low autonomy and few possibilities for acquiring new knowledge[33].

Another relevant factor that should be highlighted is the fact that the nursing category is predominantly female, a condition that can both favour and aggravate this situation, given that women in our society still have a double working day, as they carry out their professional activities and take care of their children, family and domestic activities[32].

The novelty of this study points to the identification of the detailed profile of nurses working in ICUs in a large city in the interior of the state of Bahia, estimating the prevalence and investigating the association between the psychosocial aspects of work and Burnout Syndrome in these workers. However, it is necessary to make some methodological considerations: cross-sectional studies do not allow a causal link to be established, but only point to the association between the variables studied; due to the size of the population studied, it was decided not to carry out confounding and interaction analyses, which are important procedures for more robust conclusions; the use of a self-administered questionnaire, due to the subjective nature of the respondent, can influence the results depending on the degree of

understanding, as well as allowing questionnaires with incomplete answers to be returned.

Conclusion

The results showed a high prevalence of Burnout Syndrome among the intensive care nurses studied. There was an association between the highly demanding and passive work situations of the Demand-Control model and Burnout Syndrome.

In this study, the prevalence of Burnout Syndrome was more associated with the control dimension of work (work being very repetitive, not requiring creativity or the development of special skills) than with the demand dimension.

This study draws attention to aspects that involve the scenario in which these workers work and seeks to contribute to the discussion on strategies that can improve working conditions in this labour environment, seeking to prevent physical and psychological illness among intensive care nurses.

Conflict of Interest:

None.

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