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NURSING STRESS LEVELS IN INTENSIVE CARE UNITS

NÍVEIS DE ESTRESSE DA ENFERMAGEM NAS UNIDADES DE TERAPIA INTENSIVA

NIVELES DE ESTRÉS DE ENFERMERÍA EN LAS UNIDADES DE TERAPIA INTENSIVA

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ABSTRACT

Objective: to describe the levels of stress among nursing professionals in the adult intensive care units of some private hospital services. **Method:** this is a quantitative, analytical and cross-sectional study in three private hospital services. Two questionnaires were applied, analyzing them by means of analytical statistics. The results are presented in the form of tables. **Results:** it was found that of the 72 participants, the majority (95%) were Nursing technicians, female (52.8%), young adults (27.8%) and married women (54.2%). In addition to the moderate stress score (70.8%), it is more likely that a professional presenting this symptomatology could trigger a high level of work stress. **Conclusion:** a significant rate of stress and absenteeism was verified, that the working environment exerts frequent tensiogenic situations and that, due to the poor salary, these professionals take on multiple workdays that do not cease at home. **Descriptors:** Nursing team; Work conditions; Emotional Exhaustion; Nursing work; Intensive Care Units; Occupational Risk.

RESUMO

Objetivo: descrever os níveis de estresse entre os profissionais de Enfermagem de nível médio nas unidades de terapia intensiva adulto de alguns serviços hospitalares privados. **Método:** trata-se de um estudo quantitativo, analítico e transversal, em três serviços hospitalares privados. Aplicaram-se dois questionários, analisando-os dados por meio da estatística analítica. Apresentam-se os resultados em forma de tabelas. **Resultados:** revela-se que, dos 72 participantes, a maioria (95%) era composta de técnicos de Enfermagem, do gênero feminino (52,8%), de adultos jovens (27,8%) e casada (54,2%). Verificou-se, além do escore de estresse moderado (70,8%), que é mais provável que um profissional que apresente essa sintomatologia possa desencadear um alto nível de estresse laboral. **Conclusão:** averiguaram-se uma taxa significativa de estresse e de absenteísmo, que o ambiente laboral exerce situações tensiogênicas frequentes e que, pela má remuneração salarial, esses profissionais assumem múltiplas jornadas de trabalho que não cessam nos seus domicílios. **Descritores:** Equipe de Enfermagem; Condições de Trabalho; Esgotamento Emocional; Enfermagem do Trabalho; Unidades de Terapia Intensiva; Risco Ocupacional.

RESUMEN

Objetivo: describir los niveles de estrés entre los profesionales de enfermería de nivel medio en las unidades de terapia intensiva adulto de algunos servicios hospitalarios privados. **Método:** se trata de un estudio cuantitativo, analítico y transversal, en tres servicios hospitalarios privados. Se aplicaron dos cuestionarios, analizando los datos por medio de la estadística analítica. Se presentan los resultados en forma de tablas. **Resultados:** se revela que, de los 72 participantes, la mayoría (95%) estaba compuesta de técnicos de Enfermería, del género femenino (52,8%), de adultos jóvenes (27,8%) y casada (54,2%). Se verificó, además de la puntuación de estrés moderado (70,8%), que es más probable que un profesional que presente esta sintomatología pueda desencadenar un alto nivel de estrés laboral. **Conclusión:** se verificó una tasa significativa de estrés y de absentismo, que el ambiente laboral ejerce situaciones tensiogénicas frecuentes y que, por la mala remuneración salarial, esos profesionales asumen múltiples jornadas de trabajo que no cesan en sus domicilios. **Descriptores:** Grupo de Enfermería; Condiciones de Trabajo; Agotamiento Profesional; Enfermería del Trabajo; Unidades de Cuidados Intensivos; Riesgos Laborales.

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INTRODUCTION

It is a study about stress levels among nursing professionals at the adult intensive care units (ICUs) of some private hospital services (PHS's), taking as a field of observation hospitals in a northeastern capital where the conditions of labor relations are considered to be precarious in relation to other Brazilian regions, being one of those that present lower rates of formality in the labor relations of the country, together with the North region.¹⁻² It is assumed, as is reasonable, that in difficult working conditions the possibility of workers being stressed is real.

It is noticed that since Selye, in 1936, the stress is the object of several studies, evidencing the constant expositions to some physical or mental stressors that can potentiate a set of physiological reactions that alter the homeostasis and promote harmful impacts on the health of beings humans.³ It is mentioned, among the physical conditions, of work that, while being social, reverberates directly in the physical and mental conditions of the worker.⁴

Occupational stress has, as a characteristic, the set of subjective phenomena experienced internally and externally, in an individual and distinct way in relation to the stressors in the work environment, being the effect of the mutual and excessive influence of labor and resources imposed, in the long term, capable of resulting in the alteration of the psychophysiology of the worker, propitiating the high rate of absenteeism that burden the State, the worker and the employer.³⁻⁴

Specialized professionals and state-of-the-art technological resources are concentrated in ICUs to deal with patients in severe situations. It is composed of the largest work team, in these units, of nursing assistants and technicians (NAT's), with 24 hours being directly linked to Nursing care.⁴ The physical and mental exhausts are often presented silently, and the body reflects this wear and tear with some signs and symptoms unnoticed, in the majority of the times, by the professionals, due to its intense work dynamics, existing in the databases, a shortage of publications when referring to PHS's and their ICUs.⁴⁻⁶

OBJECTIVE

- To describe the levels of stress, among nursing professionals, in the adult intensive care units of some private hospital services.

MÉTODO

This is a quantitative, analytical and cross-sectional study. It is emphasized that, of the eight PHS's of the city of Maceió, in Alagoas, only three accepted to participate in the study. This study was developed in medium and large services, adopting the principles of confidentiality, thus naming them as: Jupiter Hospital (JH), Hospital Saturno (SH) and Hospital Urano (UH).

The UH is a General ICU with eight beds; the JH also has a single ICU called Cardiology, with 12 beds; the SH has two ICUs called the A/Cardiology ICU, with ten beds, and the B / General, with nine beds. These units are based on Resolution 293/2004 of the Federal Nursing Council of the time, which establishes the minimum parameters for the quantification of the number of Nursing professionals for the ICUs, often occupying 100%, recommending that every two beds/01 NAT, a safety margin of 10% must be added, that is, a total number of the three PHSs in the ICUs of 116 high-level Nursing professionals.

The study participants were selected by a simple randomized calculation, considering a 95% confidence level and a maximum error of 05%, and the sample calculation totaled 90 NAT's. Prior to this calculation, some inclusion criteria were chosen: NAT's of the care setting with a minimum service time of more than one year in the ICUs. Pregnant NATs, medical leave or vacations were excluded, and those who gave incomplete questionnaires were excluded. The Free and Informed Consent Term (FICT) was signed by all participants.

The sample was recalculated, when entering the field for data collection, due to the insufficient size of Nursing personnel for the sector in some ICUs. The inclusion and exclusion criteria were applied; remaining from the universe of 90 NAT's, the number of 72 professionals, corresponding to the "n" established which was considered statistically acceptable.

The variables for the study were chosen: sex, age, marital status, employment status, type of residence, schooling, Nursing function, ICU service time and hospital service time, work shift, leisure habit and scores of the questionnaires proposed in the data collection instruments.

The instrument of data collection was composed by three validated questionnaires: the first one refers to the survey of the socioeconomic and demographic profile; the second, to detect stress through its symptoms,

with problems experienced in the last two months (the Baccaro Test consists of 29 items, where zero was that the professional had no problems, one occasionally and two frequently). and the other, the Occupational Stress Scale (OSS), composed of 23 items that address both a stressor and the reaction to it and the impact on the work environment (where one was totally disagree, two, I disagree, three, agree in part, four, I agree and five, I totally agree).⁸

The data was collected between March and June 2016, analyzing the Statistical Package for Social Science (SPSS), version 2.0, and Statistical Analyzes System 9.02, correlating the variables and testing the hypothesis by testing the Chi-square, with a significant value of P <0.05.

This study was approved by the Research Ethics Committee (REC) of the Federal University of Alagoas (UFAL), under the

opinion of no: 1,350,399 and with the following CAAE: 50677015.9.0000.5013, through the Brazil Plataform (PLATBR), and there was a delay of the PHSs in releasing the data collection, being this one for three months after the approval of REC / PLATBR / UFAL.

RESULTS

It is revealed that the study participants were Nursing professionals working in four ICUs of three large hospitals, considering that one of the hospitals has two ICUs distributed as follows: JH (29.2%); SH (22.2%); UH ICU A (22.2%) and HU ICU B (26.4%), totaling 72 participants. The socioeconomic and demographic characteristics and the scores of the survey participants' questionnaires were tabulated in tables and graphs for better presentation.

Table 1. Distribution of participants according to Sex, Age Group and Marital Status. Maceió (AL), Brazil, 2017.

Variables	n	%
Sex		
Male	34	47.2
Female	38	52.8
Age groups (years)		
18 to 25	6	8.3
26 to 30	7	9.7
31 to 35	20	27.8
36 to 40	14	19.4
41 to 45	13	18.1
46 to 50	12	16.7
Marital status		
Single	22	30.6
Married	39	54.2
Divorced	8	11.1
Others	3	4.2

It is noticed that the predominance of NT (95.8%) is higher as a professional category.

Table 2. Distribution of participants according to Professional Category, Residence Condition and Number of Children. Maceió (AL), Brazil, 2017.

Variables	n	%
Type of residence		
Owned	54	75.0
Leased	6	8.3
Family home	12	16.7
Children		
Yes	50	69.4
No	22	30.6
Professional Function		
Nursing assistant	3	4.2
Nursing Technician	69	95.8
Schooling		
Highschool	45	62.5
Incomplete highschool	1	1.4
Incomplete Higher education	1	1.4
Complete Higher education	22	30.6
Leisure habits		
Intake of Alcoholic Beverages	15	20.8
Reading	30	41.7
Sports	13	18.1
Cinema	5	6.9

Table 3 shows a higher proportion of NAT's (48.6%) in JH.

Table 3. Distribution of participants according to the professional profile. Maceió (AL), Brazil, 2017.

Variables	n	%
ICU service time (years)		
01 to 02	9	12.5
03 to 05	27	37.5
06 to 10	23	31.9
11 to 15	5	6.9
16 to 20	8	11.1
Career Time (years)		
Up to 2	2	2.8
03 to 05	15	20.8
06 to 10	25	34.7
11 to 15	13	18.1
16 to 20	11	15.3
> 21	6	8.3
Work shift		
Morning (day job)	2	2.8
Night (shift worker)	3	4.2
All (12h through 36h)	67	93.1

After presenting the characteristics of the participants, the distribution of the participants according to the dependent variable, what are the stress levels of these professionals, in graph 1, presenting data about the evaluation of the stress

symptomatology among the NAT's participating in the study, evaluated from the Baccaro Test (1998), which pointed out that most of them are under stress, from moderate (70.8%) to intense (18.1%).

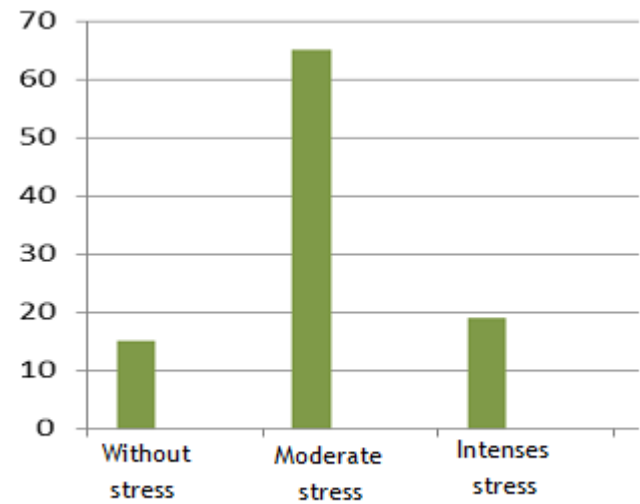


Figure 1. Symptomatology of stress level according to Baccaro test. Maceió (AL), Brazil, 2017.

It was verified the possibility of developing and already have developed work stress in all NAT's of the sample (100%).

Table 4. Distribution of the participants according to the Scale of the Stress Scale at Work. Maceió (AL), Brazil, 2017.

Results	n	%
Possibility	13	18.1
Light stress	48	66.7
Moderate stress	07	9.7
High level of stress	04	5.6
Possibility	13	18.1

According to the data presented, a significant association was found between the Baccaro Test with TSE scores, where a person with "moderate / intense stress" in Baccaro is more likely to develop a high level of stress ($P < 0.01$).

DISCUSSION

It was pointed out, according to a study⁹ carried out in another critical care unit, whose objective was to analyze the Nursing workload through the Nursing Activities Score - NAS and to calculate the ideal quantitative of the team, comparing it with the present at the Hospital das Clínicas of the Medical School of the University of São Paulo, Brazil, that securing the number of appropriate Nursing professionals in these units is a way of promoting and maintaining patient safety, since the correct dimensioning does not cause workload and reduces the wear and tear of the active worker, affecting the act of caring.

Another study is corroborated according to a systematic review,⁶ that had as objective to know the scientific production on the health of the Nursing worker, in that it indicates that it is not only a problem for Nursing, but, for: a to the state and the employer, because when the professional becomes ill, he is unable to offer a quality service and overcharges the

others, thus contributing to the increase of absenteeism in the workplace.⁹

There is a masculinization of the NATs in the ICUs in table 01, even though the female sex is prevalent and the age group is found in the study of young and married adults. It is added that, according to the profile of Brazilian Nursing, conducted by the Oswaldo Cruz Foundation (FIOCRUZ), on the initiative of the Federal Nursing Council (COFEN), although the profile shows a predominantly female profession, 15% of males area, which demonstrates a "tendency to masculinization of the category", converging with the study data.¹⁰

It is demonstrated, corroborating other studies, such as one performed in an adult ICU of a hospital of high complexity, Hospital das Clínicas de Botucatu - SP, which addressed the Bournout Syndrome among nursing professionals of the middle and higher levels,¹¹ that the majority of nursing professionals in the middle level had children, were married and had their own residences, thus converging with the results of this study. The following studies are supported,¹¹ in relation to the variables sex and marital status, in an intensive care center, composed of ICUs: pediatric, coronary, cardiac, general and mixed of a HS of public education in Uberaba-

MG,¹² which indicates a convergence in relation to the age range of this study, between 18 and 40 years, that is, of young adults.

In another study,¹³ corroborate the data above, performed at the Santa Maria University Hospital (HUSM), located in the central-western region of Rio Grande do Sul, Brazil, the female predominance among NATs, the state civil married, with the average level of schooling and, among the categories being NT, in its totality, however, in relation to more than one employment relationship, the explanation given was the poor remuneration.

It confirms again, on the profile of Brazilian Nursing, however, addressing the objective of analyzing the situation of the working conditions in which the Nursing team works, including variables in relation to working and relationship conditions,¹⁴ that Nursing is a profession and that its professionals have other employment links to make a larger income, thus increasing their work overload.

The work dynamics in the ICU are potentially stressful and, when combined with personal problems, may cause changes in the worker's psychophysiology, leading to silent mental illness or even primary irritability.^{3,13}

It is noticed in relation to the schooling variable and to the NAT's search for higher education, a significant proportion (Table 2), which may have been driven by the agreement of the federal government, through the Ministry of Education, which encouraged the expansion of Teaching Superior in Brazil and made possible the conciliation between work and study by many who work in the Nursing area.¹⁵

According to the data of an integrative review,¹⁶ two explanations for the search for graduation and reading were given: the first, the responsibility of the NAT's in the ICUs and the complexity of the actions to be performed, since it generates the professionals, to improve their technical-scientific knowledge and the second, in addition to the fatiguing work, associated with the other activity, the institutional collections and, therefore, the autocobtamiento for professional development, that impose on the worker the need for a permanent adaptation to the work environment.

It again complements the profile of Brazilian Nursing,^{10,14} that the large sectors of employability for Brazilian Nursing are the public, private and philanthropic sectors, and the private and philanthropic sectors offer

subsalaries to the working professionals, making that workers need to occupy multiple links and suffer, as a consequence, the wear and tear of their health, often lacking time for leisure habits and their family;¹⁴ already in relation to leisure habits with the practice of physical activity, a smaller number of professionals adopted this habit,¹¹ corroborating the data of this study (Table 02).

It is exposed, in another study, carried out in eight ICUs of public HSs in the State of São Paulo, addressing the stress among Nursing professionals,¹⁵ which, in relation to the time of work of the NATs of Nursing in the ICUs and the time of profession, the mentioned average was up to ten years of work, converging with the data of this study (Table 03). We observed a divergence of this study from another study in relation to the work shifts:¹⁷ the prevailing shifts of work were morning and evening shift, paradoxically to the one shown in table 3, which pointed out mostly all work shifts.

In Figure 1, in relation to the evaluation of the stress symptomatology among the NAT's participants in the study, from the questionnaire used,⁷ the majority had a moderate stress score and, according to studies already mentioned,^{3, 13,17} the explanation that corroborates this situation is that, in nursing care, these professionals are exposed to several factors that generate stress and other mental pathologies, since this care involves the systematization of the emotions, aspirations, expectations and nostalgic feelings coming from the life histories of inpatients.

It is revealed, according to the results of another integrative review,¹⁸ that Nursing has constantly negative influences in its intensive work environments, ranging from the reduced number of workers, making the working professionals have to unfold for the realization their work, the lack of professional recognition, double working hours, the low salaries paid by employers, the contact with suffering, the pain and death of patients and their families routinely in these units.

Similar results were produced in an already mentioned study, using another instrument for data collection, but with the same objective,¹⁷ where the majority of the NAT's acting in the adult ICUs presented, more frequently, moderate stress and a high level of stress to a lesser extent, where the physical, psychic, behavioral and defensive symptoms among the NATs are worrisome, as they are caused by the excessive overload of work and by the very exhausting environment of the ICUs,³⁻⁴ as mentioned in these results.

The stress levels according to the TSE evaluation are explained in table 4, and the possibility of developing and already having developed the stress at work by all NATs.

In a study already referenced with the same instrument of data collection, but with a larger sample (244), when the score was described,¹⁷ and the level of stress found by the scale, 74.47% of the subjects were with moderate level of stress, 13.29%, with low level and 12.24%, with high level of stress, diverging from the data presented in this study. Another important fact is added: in this study,¹⁷ the design of the NATs was in the ratio 1: 2 technical/auxiliary per patient; already, in this study, a smaller number of workers was verified, being necessary to recalculate the sample when entering the phase of data collection.

A significant association was found in the study between the scores of the evaluation of the stress symptomatology,⁷⁻⁸ where a person with moderate/severe stress⁷ is likely to develop a high level of stress in TSEs,⁸ confirming that the work stress reflects in the life of the NAT's.

It is known that Nursing is a profession in which its workers maintain daily contact with highly tensiogenic situations, that is, they require adaptation of professionals with the environment and that have repercussions on the health of these workers.¹⁴ It is necessary to evaluate the insertion of measures that alleviate the tension in the work and, consequently, reduce the psychological demands, since it is not always possible to increase the power of the worker's decision/autonomy.¹⁸

These explanations are corroborated in a study whose objective was to reflect on occupational stress and coping in the practice of hospital nursing, with a qualitative-descriptive approach,¹⁹ indicating that the scenario of how professionals react to the work environment, with conflicting and tensiogenic situations, may be essential in the expansion of actions aimed specifically and continuously at this target audience.

It is necessary, in an attempt to reduce such damages, that PHSs invest in actions that can reduce the stress levels of the Nursing professional, especially regarding the distribution of personnel, where participation in coping programs should be stimulated, emphasizing the importance of experience in stress assessment.^{3,19-20}

In a study carried out in another reality (the mobile ICUs),²¹ in Santa Catarina, Brazil, however, the relationship between intensive

care and theories of social representations was analyzed, with a sample of 73 professionals who sought to save and maintaining lives requires constant knowledge and responsibility of the professionals involved, and the term reinforces the routine situations in which service professionals are involved, however, conscious strategies used to reduce tensiogenic situations reduce the change in worker psychophysiology, corroborating strategies used in others studies,^{3-4,19} that should be adopted as a way of mitigating and preventing these damages to the NATs of intensive services,²² because a healthy professional maintains his quality assistance based on the principles of patient safety.²²

A study was carried out at the ICUs in Switzerland, with 2100 nurses and physicians, whose objective was to investigate the causal effects of the interaction of teamwork on emotional exhaustion with patient safety, with quantitative and qualitative approaches²³ which pointed to data that corroborated other studies,^{19,22} when citing that the professionals who work in the ICUs, because they are highly technical environments, need to be followed up with a mental health team, for care in the cognitive-behavioral dimension, emphasizing that the healthy mind reflects in the healthy body and with this, the assistance offered can be classified as quality, as regards the interference of the health of the worker with the health care.

CONCLUSION

There was a significant association between stress symptomatology and stress produced by the work environment, which confirmed the hypothesis. The objective was achieved in that the high levels of stress among the NATs were described, thus contributing to knowledge in the mental health area of the worker.

Absenteeism was observed and a poor sizing of these professionals, where the majority were female, composed of young adults, married, with their own residences, with children, who seek graduation and with more than one employment relationship, without time to exercise leisure activities and with triple trips: in their homes, as housewives, in PHS's and in undergraduate courses and professional enhancements.

According to the evaluation of Baccaro, by the NATs, there were worrying levels of stress - moderate and intense, attesting that the Nursing in the ICUs is faced with routinely tensiogenic situations. The result of this result was, paradoxically, the TSE scores in most of

the NATs as only slight, thus diverting, in addition to the Baccaro evaluation, from the other literatures consulted. It was also observed, in spite of the data that correlates the health status of the worker with the assistance offered, that some literature shows great interference.

It is also concluded that there is a shortage of publications with the target public in PHS's and, paradoxically, as a deficiency of this study, the small sample is pointed out, evidenced by the lack of interest of PHS's managers in Maceió, of the eight hospital institutions, only three authorized the study in its facilities. It is suggested, therefore, that the study proposal be expanded and further clarification can be found about the object studied.

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