ORIGINALES

Stress in nursing graduates and healthcare assistants in surgical areas of hospital

Estrés en graduados y técnicos en cuidados auxiliares de enfermería en las áreas quirúrgicas hospitalarias

María de los Ángeles Ferraz Mesa[1]
María del Carmen Serrano Barberá[2]
María José López Montesinos[3]
Laura Martínez Alarcón[4]
Jesús María González Martín[5]

[1] Phd in Nursing. Healthcare nurse, Hospital Universitario de Gran Canaria Doctor Negrín.Hospital Universitario de Gran Canaria Doctor Negrín. Las Palmas de Gran Canaria. Spain. angeles_fm@msn.com
[2] PhD in Nursing from the University of Murcia. Murcia. Spain.
[3] Phd in Nursing. Professor University of Murcia. Murcia. Spain.
[4] Associate Professor, University of Murcia. Murcia. Spain.
[5] Mathematician, Research Unit of the Hospital Universitario de Gran Canaria Doctor Negrín. Las Palmas de Gran Canaria. Spain.

ABSTRACT:
Objectives: To analyse the stress level in Nursing Graduates and Healthcare Assistants in surgical areas of the Public Hospitals in Gran Canaria.
Material and Methods: Quantitative, descriptive/observational study of cross-sectional prevalence in 143 subjects (Nursing Degree and Healthcare Assistant, henceforth (H.C.A.), in the University Hospital of Gran Canaria Doctor Negrín, henceforth U.H.G.C. Dr. Negrín and Complejo Hospitalario Universitario Insular-Materno Infantil de Canarias(Children and maternity care hospital of the Canary Islands), henceforth the C.H.U. Insular-Materno Infantil de Canarias, in the surgery services/operating rooms, Trauma Resuscitation Unit (TRU) , Post-Anesthesia Care Unit (P.A.C.U.), and Major Outpatient Surgery (M.O.S.), from 2016 to 2019. By means of an anonymous and voluntary self-completion survey based on the Perceived Stress Scale (PSS) from Cohen, S., Kamarck, T., and Mermelstein, R. It was distributed in 14 items, a questionnaire of 19 demographic and socio-labour items was also carried out, applying a cross-sectional design of dependent and independent variables.
Results: They show a stress level with a median of 22%. The mean is 21.79, the standard deviation is 7.26, the 25th percentile results in 17%, the 50th percentile is 22% and the 75th percentile is 39%. Total reliability is 0.86 using Cronbach's Alpha.
Conclusions: H.C.A. workers and Nursing Graduates from the aforementioned units show a moderate level of stress, but institutions should intervene to minimize it as much as possible.

Key words: work stress, nursing, dealing with stress, anxiety, stress.

RESUMEN:

Objetivos: Analizar el nivel de estrés que presentan los Graduados de Enfermería y los Técnicos en Cuidados Auxiliares de Enfermería en las áreas quirúrgicas de los Hospitales Públicos de Gran Canaria.

Material y método: Estudio cuantitativo, descriptivo/observacional de prevalencia transversal, de 143 sujetos (Grado de Enfermería y Técnicos en Cuidados Auxiliares de Enfermería, en adelante (T.C.A.E.)), en Hospital Universitario de Gran Canaria Doctor Negrín, en adelante H.U.G.C. Dr. Negrín y Complejo Hospitalario Universitario Insular-Materno Infantil de Canarias, en adelante C.H.U. Insular-Materno Infantil de Canarias, en los servicios de Quirófano, Unidad de Reanimación y Cuidados Críticos (R.E.A.), Unidad de Recuperación Post-anestésica (U.R.P.A.) y Cirugía Mayor Ambulatoria (C.M.A.), durante los años 2016-2019. Mediante una encuesta autocumplimentada de carácter anónimo y voluntario formado por la Escala de estrés percibido (PSS) de Cohen, S., Kamarck, T., y Mermelstein, R. Dispuesta en 14 ítems, además se realizó un cuestionario de 19 ítems de carácter demográfico y sociolaboral, efectuándose cruce de variables dependientes e independientes.

Resultados: Presentan un nivel de estrés con una mediana de 22%. La media es 21.79, la desviación típica 7.26, el percentil 25 da como resultado 17%, el percentil 50 es 22% y el percentil 75 es 39%. La fiabilidad total da como resultado 0.86 en el Alfa de Cronbach.

Conclusiones: Los trabajadores TCAE y Graduados de Enfermería, de las unidades mencionadas presentan un nivel moderado de estrés, pero las instituciones deberían intervenir para minimizarlo lo máximo posible.

Palabras clave: estrés laboral, enfermería, afrontamiento del estrés, ansiedad, estrés.

INTRODUCTION

As it used to be, one of the objectives that nurses wish to achieve today is to provide quality care to the patient/client, which is the raison d'être of our profession. To that end, it is essential for the professional nurse to be in a favourable work environment and to minimise the stress level, but the high prevalence of work-related stress affects greatly such an environment, and nursing staff currently experience higher levels of stress-related exhaustion compared to other healthcare professionals.

The World Health Organization (WHO) [1] defines stress as "the set of physiological reactions that prepare the body for action". The initial phase of stress comes together with human being, if we look back to its beginnings when facing a stress situation humans exhibit a fight or flight response. As an updated definition, "it is the automatic and natural response of our body to situations that are threatening or challenging". Stress occurs as a result of the imbalance between the demands of the situation (internal or external stressors) and the resources of the individual [2]. This process is perfectly recognizable in the work environment, especially when it occurs in workers whose profession is carried out constantly and intensely in contact with other people.

Regarding stressors, they can be defined as any event, situation, person or object, which is perceived as a stimulus or situation that causes a stress response in the subject. "Any event that has an impact or makes an impression on human organism."

"Psychological stress is the result of a particular relationship between the individual and the environment when it is considered as threatening or his/her abilities are overwhelmed endangering his/her well-being". Therefore, the way in which a person identifies a situation will determine whether it is perceived as stressful [2]. They also introduce a new term: stress management and a stress appraisal or evaluation divided into 3 types. Primary evaluation, in which demands are evaluated, classifying an event

as irrelevant, benign-positive or stressful. The stressful one, in turn, can be classified in four types (Threat: when damage or loss is anticipated. Damage-Loss: when a damage has already occurred. Challenge: involves a positive gain and a threat. Benefit: it is a positive assessment that does not lead to stress).

In the secondary evaluation, the resources to cope with the situation are evaluated. Organization of the action: it establishes the behavioural skill to be carried out in order to cope with the demands, as well as mobilizing the cognitive and physiological resources required to develop these behaviours.

A model called the psychosocial stress approach or life events approach was developed in one study. Lists of the most stressful life events were created by examining more than 5,000 medical records, producing a list of 43 life events that we call the "Holmes and Rahe Stress Scale" [3].

Life events are objective experiences that alter or threaten to alter an individual's daily activities, producing a substantial readjustment in behaviour.

It has been proven that daily discomfort and chronic difficulties can be as stressful as major life events, and can have a great impact on physical and psychological well-being" [4], although it will depend on the individual who tends to think in negative terms[5].

With regard to the causes of stress, the environment, one's own body and one's own thoughts are the main ones.

- Environment: environment such as noise, crowds, schedules, etc.
- Body: illnesses, accidents, etc.
- Thoughts: the way to interpret and classify experiences, the way to see the future, etc.

Regarding the stress response in the organism, it can occur at different levels, each person responds in a different way and not in a static way depending on his or her evolution and the different strategies that he or she develops in his or her life to deal with stress. Despite so many years of research, stress is still being studied in the health field and considered "the disease of the twentieth century" [6].

For all these reasons, the objective of this study was to find out the stress level of the personnel from Nursing Degree and Healthcare Assistant, henceforth (H.C.A.) and to identify whether the stress is associated with the socio-labour and demographic variables of the sample.

MATERIAL AND METHODS

This is a quantitative, descriptive/observational study of prevalence (cross-sectional). The interviewer administered the questionnaire, with dichotomous and polychotomous Likert scales, and the sample was obtained using causal or incidental sampling.

Regarding the scope of the sample under study, 457 subjects participated. This number refers to all the staff who was provided by the nursing supervisors of both

hospitals, resulting from the addition of every units, Operating Room, Trauma Resuscitation Unit, hereinafter (T.R.U.), Post-Anaesthesia Care Unit, hereinafter (P.A.C.U.) and Major Outpatient Surgery, hereinafter (M.O.S.). 151 self-completion surveys were obtained, to which the inclusion and exclusion criteria were applied, resulting 143 subjects, becoming the sample to be studied.

Inclusion criteria:

- Be working on the dates of data collection in the Operating Room, TRU, MOS and PACU units as a nurse or HCA.
- Have more than one-month experience in the units aforementioned.
- Be dedicated exclusively to patient care (excluding personnel who perform other tasks such as training, supervision, etc.)

Exclusion criteria :

- Refuse to participate in the study
- Blank or poorly completed questionnaires

On the basis of the relationship between the number of items per construct and the sample size, it is representative [7]. The clusters were represented by the units in which the professionals worked. The study was carried out from 2016 to 2019.

Once the bibliographical review was carried out and in order to be aware and analyse the situation, a field work was conducted to measure, in the workplace, the stress level of nursing professionals (Nursing Degree and HCA.), in the two public hospitals on the island of Gran Canaria, in the University Hospital of Gran Canaria Doctor Negrín, henceforth U.H.G.C. Dr. Negrín and Complejo Hospitalario Universitario Insular-Materno Infantil de Canarias(Children and maternity care hospital of the Canary Islands), henceforth the C.H.U. Insular-Materno Infantil de Canarias, in the Operating Room, TRU, MOS and PACU units . Data analysis and processing were carried out.

With respect to the methodology, a questionnaire with demographic and socio-labour variables, as independent variables, with 19 items, as well as a questionnaire as dependent variables with 14 items, with a validated document, the Perceived Stress Scale (PSS) [8] will be used as measurement tools. After obtaining different scientific articles as a reference [9]. The dimensions measured by this questionnaire are the global perception of stress and the response to stress.

Statistical data analysis and data processing was carried out using Excel software. Statistical software R Core Team 2018, version 3.5.2. Regarding the analysis carried out, it was Mean, Standard Deviation, Median and 25th and 75th percentiles in the quantitative variables. Frequency and Percentage in the qualitative variables Cronbach's Alpha test and Spearman's rank correlation coefficient.

The study was carried out with the prior approval of the Ethics and Legislation Committee (report code number: 994/2018-027-1). Complying with BCP standards (CPMP/ICH/135/95).

Referring to Stress at work, the median shows the value 0%, which is the best value since it would be interpreted as the lowest stress level and the maximum value 56%,

as the highest stress level, the median is 22% so it can be interpreted as they have a moderate stress level, but action should be taken to gradually align it with the lowest level.

RESULTS

The results of our study show a stress level with a median of 22%. The mean is 21.79, the standard deviation 7.26, the 25th percentile is 17%, the 50th percentile is 22% and the 75th percentile is 27%. Total reliability is 0.86 using Cronbach's Alpha. The Shapiro-Wilk normality test has statistical significance ($p < 0.337$).

With respect to the age of the respondents (Graph 1), they are from 29 to 64 with an average of 43.57 years-old and a standard deviation of 8.67. The 25th percentile is at 36 years-old, the 50th percentile at 43 and the 75th percentile at 50. The age-groups are classified into three categories: 29-38, 39-47, 48-64. From the population studied, 81.82% are women and 18.18% are men, respectively 117 women and 26 men of the total sample (N=143). The employment categories studied were Degree in Nursing (previous names of the degree are included), 63.64% and HCA (previous names of the degree are included), 33.36%. This corresponds to 91 subjects and 52 subjects respectively.

With regard to the location of the survey respondents, or their workplace, 63.64% work at the Dr Negrín University Hospital, whereas 36.6% work at the C.H.U. Insular-Maternal Infantil de Canarias. Most of participants, 71.33%, worked in the operating room unit and M.O.S with 4.2%, was the unit with the lowest participation. T.R.U. and P.A.C.U. reflect the intermediate values, 16.08% and 8.39% respectively. There is no evidence to confirm that medians in men and women are different, neither between the two Public Hospitals, nor between the two degrees under study. The non-parametric test of the U-Mann-Whitney has been used, as the p-value is higher than 0.05. The Jonckheere-Terpstra test was used to check whether the level of stress increases or decreases with age (ordinal variable). Since the p-value = 0.90 is higher than 0.05, there is no tendency for more or less stress to occur at a younger or later age.
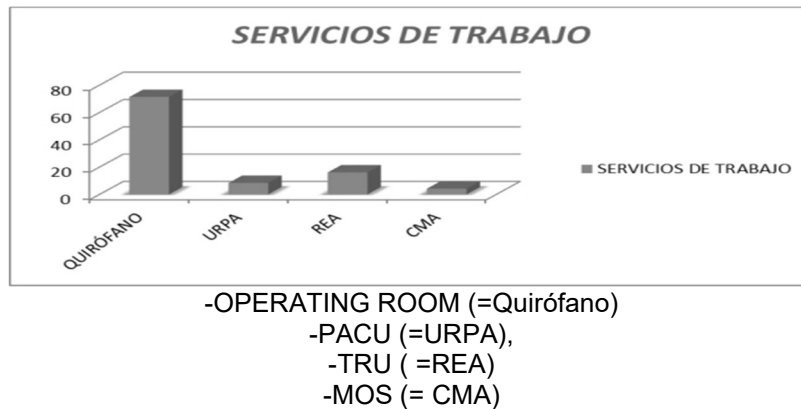
Graph 1: Age
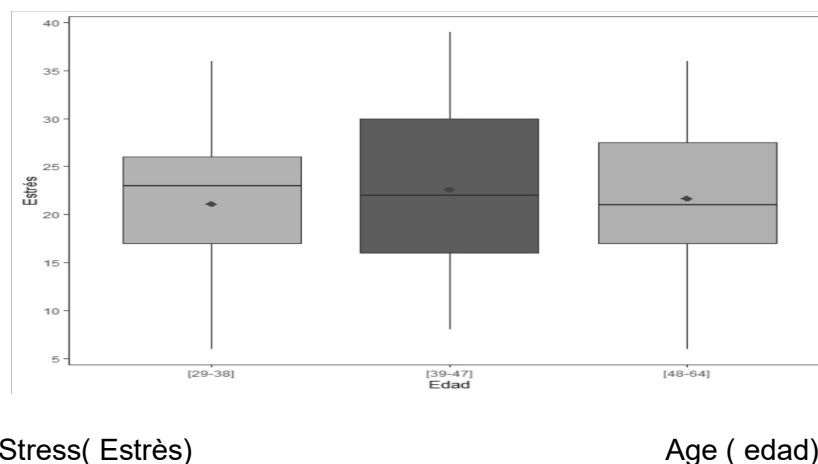
Stress(Estrès)_____Age (edad)

Graph 2.- HEALTHCARE SERVICES

-OPERATING ROOM (=Quirófano)
-PACU (=URPA),
-TRU (=REA)
-MOS (= CMA)

60.84% of subjects are married or have a partner and 67.83% have children. Most of them, 33.57%, have no children, 31.47% have two, 27.97% have one, 6.29% have three and 0.7% have four. According to Spanish National Institute of Statistics "the short-term fertility indicator by province, Las Palmas, and order of births, children per woman in 2017 is 1.05 children and in 2018 is 0.99 children. With regard to the number of children, the average in the group of women with a nursing degree is 0.959 children and in the group of women with a HCA degree is 1.5 children. It can be observed that this number in Nursing Graduates is significantly lower and in HCA is higher. From the subjects who participated, 63.64% were Nursing Graduates and 36.36% were HCA. 76.22% studied locally in the province, while 23.78% in a different one. With respect to the Autonomous Community of birth, 86.01% were born in the Canary Islands and 13.99% in a different one.

Taking into account the distance from home to work, 29.37% are less than 5 km, 26.57% are from 6 to 15 km, 23.08% are from 15 to 25 km, and 20.98% are more than 25 km. 55.24% share their household chores with one or more persons and 44.76% do them on their own. With respect to other jobs, 95.1% do not have another job and 4.9% do. With regard to the degree of participation, the hospital with the highest participation was the H.U.G.C. Dr. Negrín with 63.64%, while in the C.H.U. Insular-Materno Infantil de Canarias it was 36.6%. In reference to the units, the operating room with 71.33% showed the highest participation, followed by TRU with 16.08%, PACU 8.39% and MOS. 4.2%.

DISCUSSION

The response rate was 31.29%, similar to 45.4% in a study [10], and 47.8% in another study [11]. Although there are similar studies, there are others in which this rate is much higher, but it must be taken into account that the population under study due to the geographical limitation only refers to 457 subjects.

In the last item of the questionnaire on social, labour and demographic factors, we can observe that 13.99% have been on sick leave in the last 6 months, compared to 86.01%.

With regard to the sociodemographic factors, we can say that, as set out above, the interest of the sociodemographic factors of the worker is shown, since these affect the performance of Nursing and HCA tasks to a different extent.

In the present study the following data were obtained, with respect to the predominant age group, we find the one from 29 to 38 with 34.27%, 81.82% are women, against 18.18% men, this data is extrapolated to all the units within Nursing and HCA jobs, professions with a clear female predominance [12]. It was found that the effects on health, the association between variables "Conflict-family work" is a differentiating factor between both genders, resulting the most important predictors in the sample of women, and concluding that healthcare sector is not adapted to the emotional characteristics of women, due, above all, to the leadership skills applied.

In terms of years of experience, the average is 17.8 years and seniority is 10.04 years. This result is similar to a study [13], in which it is stated that seniority is due to the fact that staff have to be well trained what requires years of preparation. With regard to services, 71.33% of participants work in the operating room, 18.08% in the TRU, 8.39% in the PACU. and 4.2% in the MOS. It is worth mentioning a study of Work Satisfaction and Change Strategies of nurses in the Public Hospitals of Badajoz and Caceres [14], which shows that in the Surgical Units of the hospitals with a higher number of beds and nurses, these experience greater stress.

According to the type of contract, 34.97% are permanent, 32.87 temporary, 24.48% interim and 7.69% replacement. Compared to another study [15], it shows that 43.7% do not have a stable position and in this study it is higher, 65.03% and do not have a permanent contract, a very relevant data, since the type of contract creates a great job and personal stability in workers. This rate is so high due to the fact that the competitive examinations held in the Community have been very far apart in time, the last one was held in 2007 and fully concluded in 2020. This leads to job instability and in addition to this point, the economic crisis in the country from 2008 to 2014 that affected all employment sectors.

In reference to job rotation, 55.24% work in the same position, 37.06% rotate within the unit, 7.69% rotate in other units. The number of personnel who rotate is high (44.76%), and we have not found any studies that relate job rotation to stress. This is why these data are provided and could be compared with future studies

Taking into account socio-demographic and labour factors, there is a study that analyses the importance of the labour context [16], in which its results show that socio-demographic and labour factors influence quality of work life.

There is a study on Burnout Syndrome in Palliative Care Nursing Professionals in the Basque Country [17], where a comparison is made between the Palliative Care nurses and a control group of nurses from the same hospitals, but in other hospitalization units, and as a conclusion, it was found that the "burnout syndrome" levels of nurses from both groups were similar. In our study no comparison was made with other units, in contrast a study indicates that nursing staff have greater stress in this type of specific units [18]. In order to minimize stress, one study refers to the fact that training in stress management strategies would help professional nurses to moderate and minimize the negative consequences of work-related stress, being the burnout syndrome [19] the most harmful.

In reference to the differentiation based on work environment, it is worth mentioning the study "Validation of a moral distress instrument in nurses of primary health care"[20]. Its results show that the instrument is capable of identifying the factors that trigger moral distress in primary care nurses, whose limitation was the fact that it was the first to be applied and, together with others, sets a precedent for specification based on work environment.

There is a current study "Stressful work factors in professional nurses and their influence on the perception of quality of care for patients in the clinical hospitalization service of Hospital General IESS Quito Sur, Quito" [21], in which, although they used other tools to measure, they adapted them. The results were specific and refer to the impotence in the case of a patient who has no improvement, staff shortages and difficulties in working with a particular nurse or nurses from their own unit.

Another study that relates work stressors and the perception of self-efficacy of humanized care showed that in its sample the variable of perception of self-efficacy of humanized care was considered as mean and in no member of the population did it have a high perception [22]. This result leads us to the fact that when studying work-related stress, its measurement is important, since it will depend on the generality we want to measure or the level of specificity [23].

For all these reasons, the objective of this study was to determine the stress level of Nursing and H.C.A. staff and to identify whether the stress is associated with the socio-labour and demographic variables of the sample.

CONCLUSIONS

In reference to Stress we must point out even though it does not show, in general, a very high level, there are several questions that should be considered and highlighted, in the third question, the last month, how often have you felt nervous or stressed, 42.66% responded "occasionally", 24.48% responded "often" and 15.38% "very often". These levels are high and indicate that an action is required, that staff feels nervous or stressed, and it is not the proper environment to provide decent quality care to the client/patient. With regard to workloads, the following questions can be used as a reference. The eighth question, the last month, how often have you felt that you could not cope with all the things you had to do, 38.46% answered "occasionally" and 14.69% answered "often", these data should be taken into account, although 28.67% answered "rarely". And the twelfth question, the last month, how often have you thought about the things you still have to do, 31.47 responded "occasionally", 32.47% "often" and 25.87% "very often", these are very high levels that, although nursing is a profession of continuity of care, indicate its complexity and require lower workload and lower levels of stress.

Regarding the association between the dependent variable and the independent ones, or socio-labour and demographic ones, there is a clear relationship, the individual characteristics of each worker such as gender, work experience, age, significantly affect the dependent variable of perceived Stress.

The results of our study show a stress level with a median of 22%. With respect to the age, the respondents are from 29 to 64, the average is 43.57 years-old.

With regard to the location of the survey respondents, or their workplace, 63.64% work at the Dr Negrín University Hospital, whereas 36.6% work at the C.H.U. Insular-Maternal Infantil de Canarias. Most of the participants, 71.33%, worked in the operating room unit and M.O.S with 4.2%, was the unit with the lowest participation. T.R.U. and P.A.C.U. reflect the intermediate values, 16.08% and 8.39% respectively. There is no evidence to confirm that medians in men and women are different, neither between the two Public Hospitals, nor between the two degrees under study, there is no tendency for more or less stress to occur at a younger or later age.

As a conclusion, it is important to provide the results to the Hospitals and to analyse how the studied dimensions could be improved, developing strategies to reduce them. From our perspective, these factors should be checked regularly at unit meetings. The aim is to improve the professional's environment, which in turn leads to better quality care.

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