



**Category: Applied Research in Health and Medicine**

**ORIGINAL**

## **Psychosocial risk factors and health status of nurses in a Geriatric Hospital in the city of Rosario in August 2021**

### **Factores de riesgo psicosocial y estado de salud de los enfermeros de un Hospital Geriátrico de la ciudad de Rosario en agosto de 2021**

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#### **ABSTRACT**

The professional practice of nursing involves exposure to a series of factors and conditions that demand the physical, cognitive and emotional involvement of nurses. The imbalance between these demands and the possibility of the professional's response can give rise to a scenario of occupational stress that, if prolonged over time, harms the physical and mental health of individuals. The aim of this study was to describe the psychosocial risk factors and the health status of nurses in a Geriatric Hospital in the city of Rosario in August 2021. A descriptive and cross-sectional research study was carried out with a qualitative methodological approach design on the two variables under study. The research site was a comprehensive care institution for the elderly where 30 nurses were selected to perform nursing functions in the 9 inpatient wards. The sampling was non-probabilistic and random until the proposed number of nurses from all the wards was covered. The data collection technique was the survey and a self-administered questionnaire with 21 closed and one open-ended questionnaire was used as an instrument. The instrument was tested with 14 undergraduate students to assess the clarity of the questions posed. The surveyed data showed that the quantitative deficit in the provision of nursing equipment within the work schedule influences their mental health more than the work shift itself (50% and 43% respectively). The work tasks and problems specific to Nursing influence the mental health of the respondents with fairly even parity (43% in both cases). The physical symptoms expressed by the respondents show a predominance of physical fatigue (80% of the cases), physical fatigue (80% of the cases), and physical fatigue (80% of the cases), physical fatigue (80% of the cases), myalgias (63%) and frequent headaches (43%). Some 13% of the nurses showed the psychic symptoms of emotional exhaustion, emotional hardening and frustration -indicators of chronic work stress-; 17% have at least two of these symptoms and 20% only one. Half of the nurses did not express any symptoms of chronic job stress.

**Keywords:** Nursing; psychosocial risk factors; physical symptoms and mental health.

## RESUMEN

La práctica profesional de Enfermería implica la exposición a una serie de factores y condiciones que demandan el involucramiento físico, cognitivo y emocional de los enfermeros. El desbalance entre estas demandas y la posibilidad de respuesta del profesional pueden originar un escenario de estrés laboral que, de prolongarse en el tiempo, perjudica la salud física y mental de las personas. El objetivo de este estudio fue describir los factores de riesgo psicosocial y el estado de salud de enfermeros de un Hospital Geriátrico de la ciudad de Rosario en agosto de 2021. Se ejecutó un estudio de investigación de tipo descriptivo y de corte transversal con un diseño de abordaje metodológico cualitativo sobre las dos variables en estudio. El sitio de investigación fue una institución de cuidado integral del adulto mayor donde se seleccionaron 30 enfermeros que cumplen funciones asistenciales en las 9 salas de internación. El muestreo fue no probabilístico y al azar hasta cubrir el n propuesto con enfermeros de todas las salas. La técnica de recolección de datos fue la encuesta y se utilizó como instrumento un cuestionario auto administrado de elaboración propia con 21 cuestiones cerradas y una abierta. El instrumento fue probado con 14 estudiantes de la licenciatura para evaluar la claridad de las cuestiones planteadas. Los datos relevados mostraron que el déficit cuantitativo en la dotación del equipo de Enfermería dentro del horario de trabajo influye en su salud mental más que el turno de trabajo en sí (50% y 43% respectivamente). Las tareas y los problemas laborales propios de Enfermería influyen en la salud mental de los encuestados con bastante paridad (43% en ambos casos). Los síntomas físicos expresados por los encuestados muestran un predominio de la fatiga física (80% de los casos), las mialgias (63%) y las cefaleas frecuentes (43%). Un 13% de los enfermeros mostraron los síntomas psíquicos de agotamiento emocional, endurecimiento emocional y frustración -indicadores de estrés laboral crónico-; un 17% tienen al menos dos de esos síntomas y el 20% solamente uno. La mitad de los enfermeros no expresaron ningún síntoma de estrés laboral crónico.

**Palabras clave:** Enfermería; factores de riesgo psicosocial; síntomas físicos y salud mental.

## INTRODUCTION

One of the most recognized predisposing factors for stress in health professionals is moonlighting. Leidi (2018) affirms that the existence of multiple jobs and tasks by nursing staff generates a series of problems, such as exhaustion and addiction. A series of factors govern working conditions: the organization and content of the activity, the duration and structure of the working day, the remuneration system, and the ergonomic aspects of the job, among the main factors. Overwork favors the development of mental and/or physical illnesses in healthcare workers, in addition to facilitating absenteeism, work accidents, exhaustion, work overload, and lack of leisure. Fatigued and stressed nurses are more vulnerable to illness and accidents in the workplace. However, to overcome their work's adversities, they seek motivation, such as money and knowledge, to continue working a double shift, defying extrinsic and intrinsic risk factors (De Cássia de Marchi-Barcellos et al., 2014).

Molineros Caal de Álvarez (2015) affirms that nurses are exposed to a series of risk factors: exposure to infectious agents, inadequate body movements and postures, lifting of loads, multiple displacements, exposure to irritating or allergenic chemical substances, and ionizing radiations. In line with Flores, Chávez, and Vargas (2017), in addition to the factors of the physical world, there are factors of the

abstract world such as the proximity to illness, suffering, and death, long working hours, the lack of professionals, the lack of professional recognition, communication problems and the bond with other colleagues and members of the health team, as well as schedules, shift rotation, and night shifts.

This study seeks to provide the institution with valuable and up-to-date information that could be used to prevent and intervene in the predisposing and determining factors of work-related stress to which nurses are exposed. Stress affects both the quality of life of nurses and the quality of care provided.

The information obtained is theoretically justified insofar as it can corroborate the findings in the background of the problem. It has practical justification because it allows decisions about actions to intervene and correct the problem with the social relevance of benefiting, as mentioned, the quality of life of professionals and patients' quality of care.

#### General objective

What psychosocial risk factors and health status do nurses in a geriatric hospital in the city of Rosario present in August 2021?

#### **METHOD**

A descriptive research study was carried out - without manipulating the variables -cross-sectional - the variables under study were measured in a population of 30 nurses, simultaneously in August 2021 - and with a quantitative methodological approach design on the two variables under study.

This type of study allows data to be collected at a single point in time, and it seeks to determine the psychosocial risk factors of professional nurses. Work-related stress is a type of stress associated with the workplace. It was operationalized as a complex qualitative variable including two dimensions: sociodemographic stress factors (age, sex, marital status, academic training, length of service, and workload/multiple employment) and occupational stress factors prevalent in mental health (work shift, number of professionals on the shift, tasks and work problems).

#### Area of Study

Inaugurated as an asylum for beggars and the insane - and later called a Nursing Home - the current Provincial Geriatric Hospital in Rosario began as a shelter for the elderly and homeless, all assisted by volunteers who worked with the help of the Ladies of Charity. It is currently administered by the Province of Santa Fe and is classified as a medium-risk hospital with hospitalization and specialized care for the elderly.

In addition to the hospitalization sectors, it has an internal and community vaccination center and outpatient clinics with specialties such as dentistry, ophthalmology, psychiatry, psychology, social work, a biochemical laboratory, an X-ray room, sterilization, and a pharmacy. The Nursing Department

coordinates the care of the elderly through Nursing Assistants, Technicians, and Graduates in Nursing. The residents of this Institution are people over 65 years of age, in most cases social cases.

The Institution's nine inpatient wards are arranged by gender, degree of dependency, and social security coverage. The nurses provide care to meet the residents' different needs.

**Table 1: Rooms, residents and nurses according to staffing and sampling at the Provincial Geriatric Hospital.**

Halls	Ward nurses	Nurses surveyed	Residents
Santa Rita (Women)	11	1	24
Santa Ana (Women)	17	2	27
Santa Inés (Women)	13	2	21
Santa Margarita (Women)	17	1	27
Marull I (Men)	15	2	18
Marull II (Men)	15	2	18
Rueda (Men)	16	2	24
San Juan y Sagrado Corazón (Men)	17	17	34
Palliative Care Unit (Mixed)	7	1	7
<b>Totales</b>	<b>128</b>	<b>30</b>	<b>200</b>

Fuente: Elaboración propia.

#### Participants

Population: It was made up of 30 professional nurses who worked in different wards of the institution with different tasks, as detailed in Table 1 of the previous section.

Sample: The technique used was a specific sample from the institution and from the nurses available in each ward who voluntarily agreed to participate after the purpose and objective of the study had been explained to them and their confidentiality had been assured. The procedure was repeated until the quota of participation was completed.

#### Inclusion Criteria:

Nursing staff with professional qualifications, such as nursing graduates or master's degrees. Aged between 20 and 40.

Hospital staff from different wards. Male and female.

Who wish to participate and sign the Informed Consent. Morning, Afternoon, and Night Shifts

#### Exclusion Criteria:

Age under 20 or over 70.

Who does not have a Professional Degree or are not Nursing Graduates.

Nursing staff who are not working.

Who does not wish to participate and do not sign the Informed Consent?

#### Techniques and instruments

The data collection technique selected was the survey, and a self-administered questionnaire of our own design was used as an instrument with 21 closed questions and one open question (see Appendix B). The department proposed testing the instrument with 14 students on the degree course to evaluate the clarity of the questions posed. Once this stage had been satisfactorily completed, the data collection on the units of analysis began.

The nurses to be surveyed were previously informed about the ethical aspects that contextualize this study. These aspects allowed them to participate anonymously, voluntarily, and with the option of withdrawing from the research whenever they decided. Once the consent form had been completed, the participants were asked to read each question/statement carefully and identify, by marking with a cross, the answer they believed to be representative.

The first seven items of the questionnaire clarified the sociodemographic factors dimension of the psychosocial risk factors variable. The subsequent four items clarified the dimension of prevalent psychosocial risk factors in the mental health of this variable.

Next, seven questions explored physical and three psychic symptoms, both dimensions of the health status variable. The final open question allowed for free expression of the respondent's desire.

#### Ethical considerations

The corresponding institutional authorizations were formally processed with the Head of Nursing Supervision of the Provincial Geriatric Hospital of Rosario. The questionnaires were handed out and completed on paper by the same researcher who accompanied the nurses during the completion period. The chosen moment was coordinated with those responsible for the study area, and the nurses previously received all the information necessary to complete an informed consent form (see Appendix A). The nurses completed the questionnaires knowing and agreeing they were free to refuse to participate and leave the study whenever they considered it appropriate. All data that could identify the participant was coded in order to ensure confidentiality in the processes of data manipulation and publication of results.

**TABLE 2: Age, in completed years, of the nursing professionals working in the geriatric hospital.**

<b>Código</b>	<b>Edad</b>	<b>Número de Enfermeros</b>	<b>Porcentaje de Enfermeros</b>
1	20 a 30 años	3	10%
2	30 a 40 años	13	43%
3	más de 40 años	14	47%
	TOTAL	30	100%

**Source: Author's own creation.**

The age variable is represented by the 30 health professionals surveyed. In this category, the data revealed that only 10% are under 30 years of age, and 43% are under 40 years of age. In addition, 47% of the nursing staff are over 40 years of age. Where this study population is concerned, it is recognized that the first impact of work with age is physical, involving the lifting of loads and adopting inappropriate physical postures.

**Table 3: Gender of nurses at the geriatric hospital.**

Código	SEXO	Numero de Enfermeros	Porcentaje de Enfermeros
1	Femenino	26	87%
2	Masculino	4	13%
	TOTAL	30	100%

**Source: own elaboration.**

The study population was made up of 87% women and 13% men. Women occupy a nursing role and are more vulnerable and bear the physical and psychological burden involved in their activity in the profession.

**Tabla: 4. Estado civil, de los enfermeros del hospital geritrico.**

Código	ESTADO CIVIL	Numero de Enfermeros	Porcentaje de Enfermeros
1	Soltero	13	43%
2	Casado	12	40%
3	Otro	5	17%
	TOTAL	30	100%

**Fuente: Elaboración propia.**

The marital status showed a certain parity between married nurses (40%) and single nurses (43%). As discussed by Orozco-Vásquez et al. (2019), work overload is a determining risk factor because it must include the sum of paid work and domestic work, which is usually invisible.

However, the visibility that Ceballos Vásquez et al. (2014) give to labor inequalities between men and women and -considering the clear majority of women surveyed in the team- allows us to think that there is a majority number of the population under study that must add domestic work to professional work.

**Tabla:5. Formacion academica de los enfermeros del hospital geriatrico.**

Código	Formación Académica	Numero de Enfermeros	Porcentaje de Enfermeros
1	Enfermero Profesional	24	80%
2	Licenciado de Enfermería	4	13%
3	Otra	2	7%
	<b>TOTAL</b>	<b>30</b>	<b>100%</b>

Fuente: Elaboración propia.

In terms of academic training, an 80% predominance of nurses with an undergraduate technical qualification was revealed. No evidence could show a relationship between academic degree and response to psychosocial factors. Ceballos Vásquez et al. (2014) state that nurses are not trained to visualize, study, and intervene in these factors. They introduce the concept of mental workload, which consists of the activity and capacity necessary to process and solve problems of different degrees of complexity. This could suggest a specific risk protection factor in the best-trained and most experienced.

**Tabla: 6 ¿cual es su antigüedad laboral en la institucion del hospital geriatrico?**

Código	Antigüedad Laboral	Numero de Enfermeros	Porcentaje de Enfermeros
1	Menor a 5 años	15	50%
2	de 5 a 10 años	7	23%
3	de 10 a 15 años	3	10%
4	más de 15 años	5	17%
	<b>TOTAL</b>	<b>30</b>	<b>100%</b>

Fuente: Elaboración propia.

A survey was carried out, in relation to seniority, half of the nurses have been in service for less than 5 years; and 27% have been there for more than 10 years.

**Table 7: What is the daily workload of nurses in the geriatric hospital??**

Code	Daily Workload	Number of Nurses	Percentage of Nurses
1	6 hours a day	18	60%
2	8 hours a day	10	34%
3	12 hours a day	1	3%
4	more than 12 hours a day	1	3%

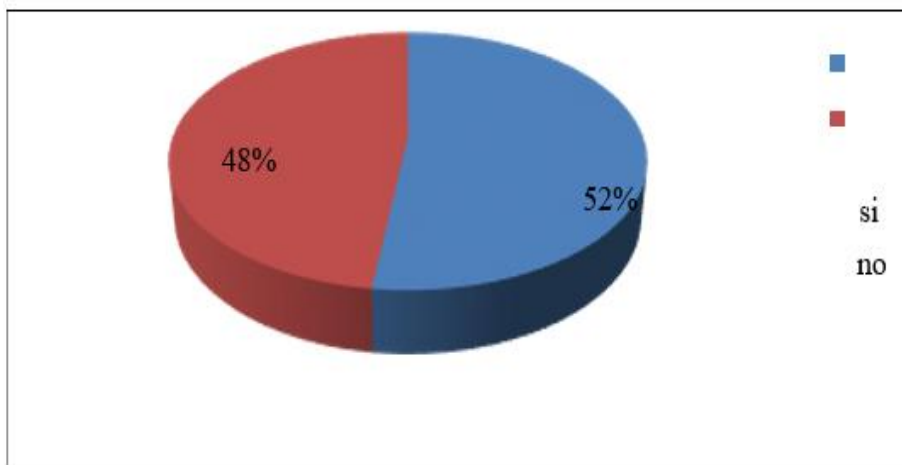
	TOTAL	30	100%
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Source: Author's own creation.

When asked about the average daily hours, 60% stated the equivalent of a 6-hour day, while the remaining 40% accumulated 8 and 12 hours daily. Campero et al. (2013) and Leidi (2018) point out the risk involved in work overload; for their part, Ceballos Vásquez et al. (2014) place overload as a factor in the prevalence of physical and mental damage.

Associated with work overload, 52% said they had more than one job; of these 13 nurses, 10 justified this situation in terms of economic necessity and 1 in the need to learn. Two nurses - of the twelve who have only one job - justify it as a lifestyle choice to preserve their health. Leidi (2018) affirms that moonlighting seems to favor the development of mental and/or physical illnesses in healthcare workers, in addition to facilitating absenteeism, work accidents, exhaustion, and addictions. De Cássia de Marchi-Barcellos et al. (2014) point out that nurses are aware of extrinsic and intrinsic risk factors but expose themselves for money and knowledge.

Figure 1: Nurses moonlighting at a Geriatric Hospital in the city of Rosario in August 2021.



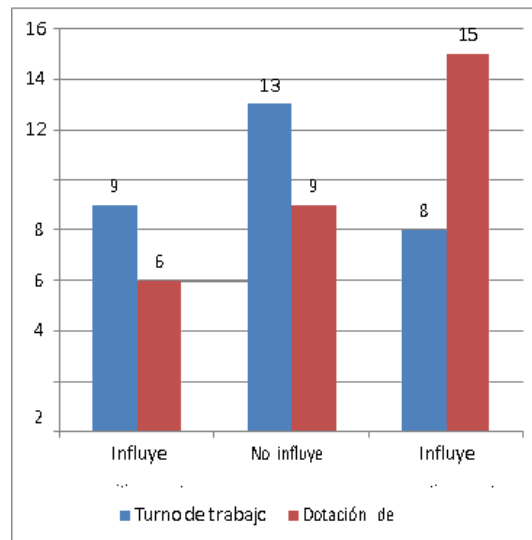
Source: Author's own creation.

When two prevalent psychosocial risk factors affecting nurses were explored, it was found that the quantitative deficit in the staffing of the nursing team within working hours influences their mental health more than the work shift itself (50% versus 43%). In explaining this response, 24 nurses agree on the staffing problem: 11 express it as insufficient staffing, 9 raise insufficient staffing about the moment of increased demand, and four express that it is inadequate management of the coverage of different absenteeism or leave. Flores, Chávez, and Vargas (2017) specifically reference the impact of the shortage of professionals. This institutional dimension that influences the work of nurses is recognized by Flores et al. (2017), who highlight how poor administration affects the lifestyle of nurses despite the



recommendations of the WHO (Campero et al., 2013) to resolve deficits and control stress in the workplace, not only for nurses but for the entire healthcare team. PAHO warns that failure to resolve the problem causes damage to the institutions themselves. Leidi (2018) adds that the organization of work is decisive in generating risk factors. Regarding the impact of nurses' working hours, Flores, Chávez, and Vargas (2017) and Ceballos Vásquez et al. (2014) agree on the confluence of changing schedules, shift rotation, and night shifts.

**Figure 2: Influence of assigned work shift and number of nurses per shift on the mental health of nurses at a Geriatric Hospital in the city of Rosario in August 2021.**

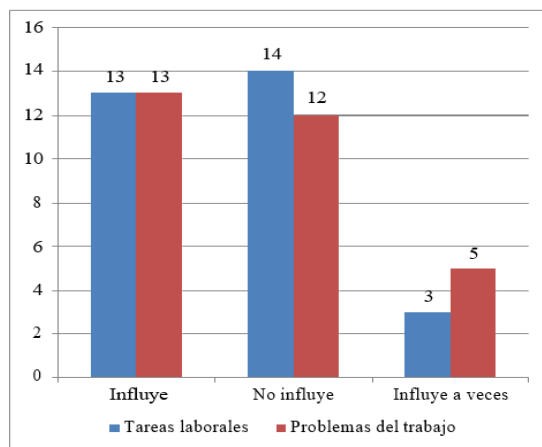


**Source: Author's own creation.**

Two other psychosocial risk factors described (the tasks and work-related problems specific to nursing) influence the mental health of the respondents with considerable parity. Flores et al. (2017) state that nurses' work puts their physical and mental health at risk and emphasizes the fragmented and routine nature of the tasks; Ceballos Vásquez et al. (2014) highlight the frequent changes of tasks in different services.

In the population survey, 47% of nurses said they did not feel influenced by the type of nursing tasks they performed, while 43% felt influenced regularly and 10% sometimes. The percentage of nurses who feel influenced by the problems of nursing work was 43% influenced by tasks, while the number of nurses not influenced decreased (40%), and 17% sometimes do.

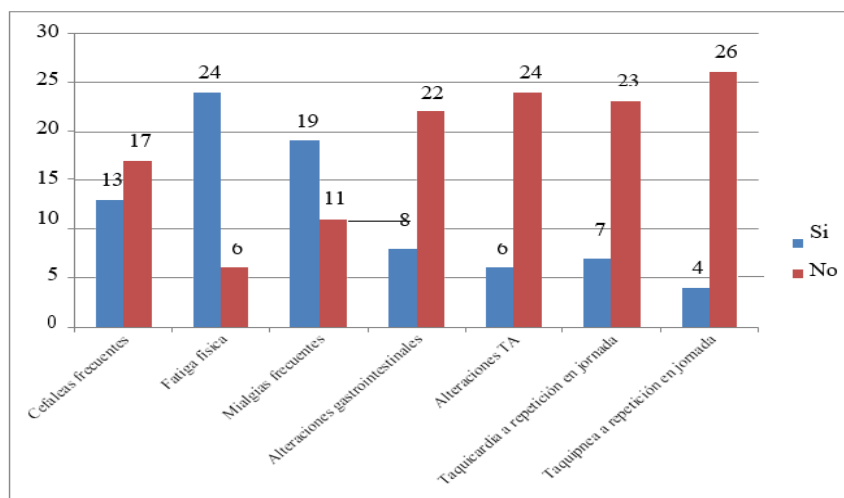
**Figure 3: Influence of work tasks and problems on the mental health of nurses at a geriatric hospital in the city of Rosario in August 2021.**



Source: own creation.

The physical symptoms expressed by the respondents show a predominance of physical fatigue (80% of cases), frequent myalgia (63%), and frequent headaches (43%). Alderete Rodríguez et al. (2016) found a high percentage of stress symptoms in nursing, where difficulty falling asleep or waking up during the night, headache, and heartburn or stomach ache were prevalent. A comparison of the frequencies of the presence of physical symptoms expressed by nurses can be seen.

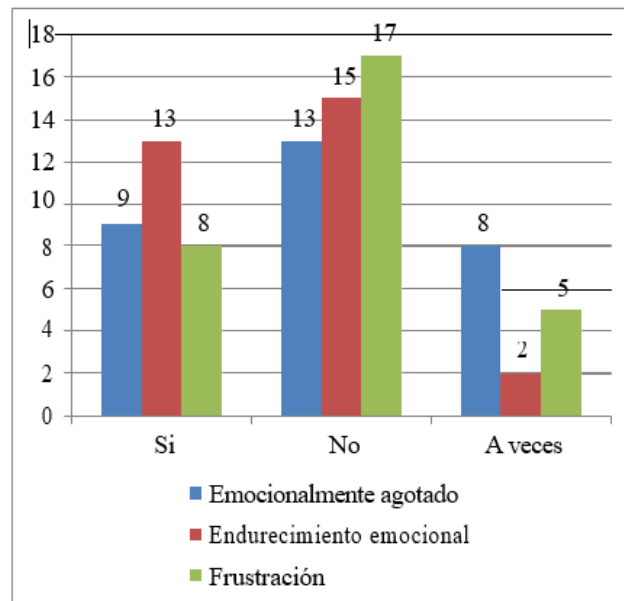
**Figure 4: Frequency of physical symptoms in nurses at a geriatric hospital in the city of Rosario in August 2021.**



Source: Author's own creation.

The presentation of psychological symptoms has shown a predominance of negative responses.

**Figure 5: Frequency of the presence of psychological symptoms in nurses at a geriatric hospital in the city of Rosario in August 2021.**



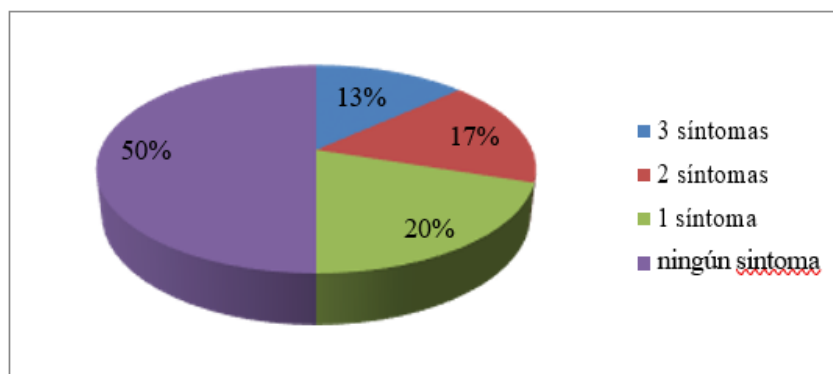
**Source: Author's own creation.**

When some nurses explain why they feel these symptoms, the lack of professionals is again mentioned, but there are also some interesting stories. In 6 responses, there is a specific reference to an “overload” of activities due to the lack of professionals. In 8 respondents, the term “failure” to carry out tasks - a consequence of the overload - appears as a factor generating anxiety. On three occasions, the source of anxiety is linked to “routine” work and, on another 3, to exposure to pain and the demands of others. These responses validate information gathered with the instrument and found in the background and conceptual framework.

Some nurses justified emotional hardening by describing it with concepts similar to instrumental dissociation. The feeling of frustration is not expressed, and many nurses associate this idea with being vocationally consolidated.

Now, having recognized Burnout Syndrome as an indicator of chronic work-related stress with its three related symptoms - emotional exhaustion, emotional hardening, and frustration - the survey showed that four nurses habitually presented all three symptoms. In contrast, five nurses presented two, and six nurses presented only one.

**Figure 6: Number of symptoms related to Burnout Syndrome commonly presented by nurses at a Geriatric Hospital in the city of Rosario in August 2021.**



Source: Author's own creation.

An interesting aspect arose when it was decided to investigate the 30% of respondents who usually presented at least 2 of the three symptoms. In a study population with 87% women, 4 of these nine nurses are men and truncate the gender approach correlate of Ceballos Vásquez et al. (2014) regarding greater female vulnerability. Another change in the correlation - referring to this study population - is revealed when five nurses with symptoms declare a workload of 6 hours and a single job, in contrast to what was stated about vulnerability due to work overload and moonlighting by Flores et al. (2017), Campero et al. (2013) and Leidi (2018).

On the other hand, the trend that had been manifested in the entire study population was maintained when five nurses with symptoms expressed that they were negatively influenced by the work shift and when all of them (9 nurses) considered the lack of nurses per shift as the main stress factor with an impact on task performance. The prevalence of frequent physical symptoms with headaches, myalgia, and physical fatigue was also repeated.

## CONCLUSIONS

In terms of socio-demographic characteristics, the study population showed a predominance of women and an undergraduate academic level (87% and 80%, respectively). Half had been working for more than 5 years, and 47% were over 40 years old. Less than half of the nurses stated that the average daily workload was 6 hours, and the remaining 40% accumulated 8 to 12 hours a day. A little over half of the nurses declared they had other jobs, mainly due to financial necessity.

The quantitative deficit in the staffing of the nursing team within working hours was identified as the prevalent psychosocial risk factor with the highest incidence on the mental health of nurses (50% of those surveyed); meanwhile, the assigned work shift, nursing tasks, and work-related problems specific to nursing each accounted for 43%.

Physical symptoms predominantly included physical fatigue (80% of cases), frequent muscle pain (63%) and frequent headaches (43%). Half of the sample did not report any psychological symptoms related to chronic stress - emotional exhaustion, emotional hardening, and frustration - while four nurses (13%) presented the three symptoms regularly, five nurses (17%) presented two, and six nurses (20%) presented only one.

When the nurses gave reasons for the answers regarding why they felt these psychological symptoms, the deficit in the number of professionals is again expressed. However, specific references are also made to the “overload” of activities due to the deficit and the “failure” to carry out tasks - a consequence of the overload - as a factor generating distress. To a lesser extent, there is an awareness of the “routine” and exposure to pain and demand as a source of distress. Some nurses justified their emotional hardening by describing it with concepts similar to instrumental dissociation. Others resist the feeling of frustration with vocational grounds. Among the 30% of respondents who habitually presented at least 2 of the three symptoms, a parity was found between men and women that contradicts the antecedents of the vulnerability of the female gender. Another change in the correlation - referring to this study population - showed that five nurses with symptoms reported an average working week of 6 hours and a single job, in contrast to the vulnerability background due to work overload and moonlighting. On the other hand, the trend that had been seen in the whole study population was maintained when five nurses

with symptoms stated that their shift work negatively influenced them and when all (9 nurses) considered the lack of nurses per shift to be the main stress factor with an impact on task performance. The prevalence of frequent physical symptoms such as headaches, myalgia, and physical fatigue was also repeated.

As a final consideration, this research has been fundamental for applying theoretical knowledge and has provided a stimulus for continuing research into the chosen problem. It could be suggested that the number of members of the sample be increased and that the data collection instrument be adjusted to more specific and validated instruments for the study of psychosocial factors and their impact.

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