Research

DOMESTIC WORK, OCCUPATIONAL STRESS AND DEPRESSION IN NURSES AT A PUBLIC HOSPITAL IN MEXICO CITY

Mireya Zamora-Macorra
Licenciada en Psicología
Dra. en Ciencias en Salud Pública con concentración en Epidemiología
Maestra en Ciencias en Salud de los Trabajadores
Departamento Atención a la Salud, Universidad Autónoma Metropolitana, Unidad Xochimilco, Ciudad de México, México
mzamora@correo.xoc.uam.mx
https://orcid.org/0000-0002-4131-5020

Rosa Georgina Pérez-Castillo
Licenciada en Nutrición
Maestra en Ciencias en Salud de los Trabajadores
Estudiante del Doctorado en Ciencias en Salud Colectiva de la Universidad Autónoma Metropolitana, Unidad Xochimilco, Ciudad de México, México
rosageorgina20@gmail.com
https://orcid.org/0000-0003-3239-9362

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ABSTRACT
AIM: To identify the effect of the domestic on the depression of nurses in a public hospital in Mexico City. BACKGROUND: Domestic work performed mainly by women coupled with the demands of work is associated with the possibility of developing mental disorders, especially depression. INTRODUCTION: Working conditions have an impact on the physical and mental health of nurses. Participation in domestic activities adds to wear and tear on workers. METHODS: The research had a cross-sectional design with a random sample of 329 nurses from a third-level hospital in Mexico City. Occupational stress and domestic work were evaluated with nursing Stress Scale questionnaires and the Individual Worker Health Survey (PROESSAT). The DASS-21 subscale was used for depression. The associations were analyzed using logistic regression models. RESULTS: The probability of suffering from depression was 7 times higher for women engaged in domestic work. Experiencing death, lack of support and having an additional job increased their association. DISCUSSION: The work-family conflict, as well as lack of support, is associated with depressive symptoms in nurses. CONCLUSION: There is a need to implement strategic programs that provide nurses with tools to deal with work-family conflict reconciliation. It is necessary to offer more favorable working conditions in the practice of nursing.

Keywords: Domestic work, depression, occupational stress, nursing.

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INTRODUCTION

Nursing is a profession with long working hours, irregular schedules, night work, exposure to pain and suffering, among other adverse conditions that may have an impact on mental health[1].

Occupational demands impact the physical and mental health of nurses. It has been observed that high task demands, low job control and conflicts at work are associated with an increased prevalence of stress, anxiety, depression and the intention to leave employment[2,3], while low job control is related to depressive symptoms and the intention to leave employment.

Within the adverse working conditions that have a negative impact, work strain and occupational demands have been identified as associating with psychological distress[4] similarly, the relationship between overwork and sleep problems[5], while presenting a major depressive episode in the last 12 months is associated with reduced autonomy and increased work strain[6]. For their part, exhaustion and secondary traumatic stress are related to higher levels of anxiety and depression[7] and shift work to drowsiness and excessive fatigue[8].

Although the relationship with various negative conditions is well established, the effect of these conditions together with domestic activities is poorly addressed, as performing them adds wear and tear on workers; such activities are usually carried out by women, with whom the responsibility for home maintenance and childcare rests[9].

Role-shifting has allowed women to integrate into economic activities, however, the integration of men into care and domestic work activities has not been the same, so women have paid work as well as a traditional role as housewives. Women in Mexico perform more than 80% of household chores dedicating approximately 47.9 hours a week while men only 16.5 hours[10].

One of the least explored factors from quantitative methodologies is work-family conflict, that is, when the role within the family interferes with the role at work, which creates consequences on physical and emotional health, such as musculoskeletal discomfort, metabolic cardio risk, emotional exhaustion and depressive symptoms[11], while at work there is greater depersonalization, reduced self-fulfillment, lack of achievement and low productivity[12].

It has been observed that the combination of an increased demand in domestic work and low job control is associated with lower self-assessed psychological health in women, such as increased psychological distress[13], stress, feelings of isolation[14], reduced life satisfaction[15] as well as physical and psychosomatic symptoms[16].

The concept of a work-family conflict stems from Goode's role stress theory[17], which assumes that personal resources such as time and energy are exhaustible and that assigning them to one role limits them in relation to others. Sometimes working hours, demands and job-related stress may influence conflicts between work and personal life[18]. Ugarteburu et al.[19], mention that there are three types of work-family conflict: 1) related to time; 2) related to stress and 3) related to role behavior. In addition, work demands in conjunction with caring for and attending to the family may be more likely to produce stress, tension or burnout.

The work-family conflict is a two-way role conflict and a cause of stress that impacts work, family, health and behavior and has been studied using various behavioral and organizational theoretical models, among which the following stand out: Role Theory[20] by Kahnm et al., which mentions that any expectations that the individual has associated with the various roles that correspond to them have an impact on personal well-being; Karasek's stress model[21], which postulates that social support, time spent and overload —both at work and in the family— modulate conflict and may cause anxiety, dissatisfaction and alter performance levels.

As a result of their employment characteristics, nurses are at increased risk of developing this conflict, which has been associated with depression[11], exhaustion[12], sleep disorders[9] and somatoform disorder[22].

The objective of the following study was to identify the effect of domestic work combined with occupational stress as a cause of the work-family conflict, as well as observe any differences between men and women and their impact on the presence of depression among the nursing staff at a public hospital in Mexico City.

MATERIALS AND METHODS

The following study is based on a cross-sectional design in nursing staff at a specialized public hospital in Mexico City carried out in 2017. A total of 1,172 active nurses completed a simple randomization process in two stages; first, larger models were selected and subsequently a sample of 380 nurses was selected considering a morbidity proportion of 20% based on the report of the Mexican Institute of Social Security, IMSS[23]. Of the total sample selected, 329 nurses (87% of the calculated sample) responded. Participants were nurses who had direct contact with both out- and inpatients. Selected services were as follows: gynecology (25%), surgical tower (18%), pediatrics (16%), oncology (16%), neurology (9%), emergencies (8%) and pneumology (8%) (Table 1).

Table 1. *Socio-demographic and labor variables of nursing staff in the General Hospital in Mexico City.*

	N= 329	%	Mean (SD)
Sex			
Women	312	94.8	
Age (years)			41 (8.42)
Education			
Diploma/associate (registered nurse)	114	34.6	
Bachelor's degree (nursing practitioner)	169	51.4	
Specialization/postgraduate (nursing practitioner)	44	13.4	
Marital status			
With a partner	194	58.9	
No partner	135	41.1	
Children			
Yes	241	73.3	
No	87	26.4	
Department/service			
Gynecology	82	24.8	
Surgical Tower	58	17.6	
Oncology	54	16.4	
Pediatrics	52	15.7	
Neurology	29	8.8	
Emergencies	28	8.5	
Pneumology	27	8.2	
Area			
Hospitalization	198	60	
Specialized studies	42	12.7	
Operating theatre	33	10	
Intensive therapy	23	7	
Administration	16	4.8	
External consultation	9	2.7	
Sterilization	9	2.7	
Shift			
Morning	179	54.2	
Evening	58	17.6	
Night	93	28.2	

Note: N: population size, SD: standard deviation.

Individual Survey of Worker Health, PROESSAT

The PROESSAT survey contained diverse sections, in this case, it was used, the sections of labor conditions, domestic activities, and free time. *Labor conditions* were described as contract type, shift, and seniority. *Domestic activities*. The questions address various tasks: sweeping, mopping, making beds; laundry; preparing food; washing dishes and cleaning the kitchen; shopping; sewing, mending, knitting/crochet; taking care of children under 5 years of age, carrying out tasks related to home and family, scheduling. The answer for each question was dichotomous (YES=1/NO=0) and their answers accumulated. If at least 50% of the answers were positive, there was considered to be a domestic burden, thus obtaining a binary variable. *Free time,* was evaluated with a section with dichotomous questions, asking about seven leisure time activities was used, when participants responded positively to at least four activities and a dichotomous, variable was obtained as suggested by the authors[24].

Depression

The 7-question sub scale for DASS-21 depression, which was validated in the Mexican population by Gurrola et al.[25] (Chronbach alpha of 0.86), was used. Questions have four possible answers with a Likert-type scale ranging from zero to three points. For this study the total dimension score was calculated, the cut-off point was established from the 75th percentile, which indicated the presence of depression, generating a variable of two categories.

Nursing stressors

The Nursing Stress Scale questionnaire was applied in its version validated in Spain by Más & Escribá[26] (alpha de Cronbach global, 0.95) and previously used in the Mexican population[27]. The instrument consists of 34 items and contains 7 factors describing various potentially stressful situations for nurses at the hospital level (death and suffering, workload, uncertainty about treatment, insufficient preparation, lack of support, problems with doctors, problems among nurses). The responses are Likert-type from 0 to 3 points. The sum of the score of each factor was obtained and the presence or absence of stressors was established from the 75th percentile.

Ethical aspects

The questionnaire was anonymous and self-applied, ensured the right to data confidentiality, the right to know the purpose of the research, the right of voluntarism and informed consent was signed. The protocol was approved by institutional ethics and research committees.

Data Analysis

The corresponding summary measures, mean and proportions were obtained for each variable. Various logistic regression models were used to identify the association between working conditions, domestic chores and the development of depression. A global analysis was carried out with the entire population and another only with women and the assumptions of both models were tested. Age was considered a confounding factor and the models were adjusted by this

variable; extreme data were excluded to avoid potential biases. The data was processed in Stata 14.0.

RESULTS

Of the total of 329 participants, 95% were women with an average age of 41, 59% reported having a partner and 73% had children. In terms of work profile, 51% reported undergraduate schooling, 60% held a position in hospitalization, 54% indicated working the morning shift (Table 1).

Table 2 shows that 81% of the sample reported doing household work. The most common domestic chores were shopping for the home and family, washing dishes and cleaning the kitchen. As for stressors derived from the psychological environment; 57% of participants reported workload, 45% expressed insufficient preparation, 43% death and suffering, 38% job uncertainty and 35% perceived lack of support. In the social environment, 21% reported problems with doctors and 31% reported problems with fellow co-workers. In addition, the prevalence of some degree of depression was 28%.

Table 2. *Prevalence of depression, domestic work and stressors in nursing staff.*

	Yes (N= 329)	**%**
Depression	93	28.3
Domestic work	267	81.2
Nursing stressors		
Workload	181	57.2
Insufficient preparation	145	45.2
Exposure to suffering and death	135	42.9
Uncertainty about treatment	123	38.3
Lack of support	116	35.5
Problems among colleagues	71	30.6
Problems with doctors	68	21.2

Note: N: population size.

Logistic regression models (Table 3) show the contribution of different job demands on the development of depression. The analysis was carried out initially considering the entire population and subsequently only women. Exposure to the death and suffering of patients, having another job as well as lack of support from staff increased the likelihood of depression, while having active leisure time decreased the likelihood. Domestic work also increased the possibility of developing depression and when testing only women, the effect almost doubled.

Table 3. *Associations between domestic work, nursing stressors, labor conditions and the development of depression among nursing personnel*.*

Variables	Men and women OR (95% CI)		*p*	Only women OR (95% CI)		*p*
Domestic work	4.11	.89-18.98	0.070	7.38	.92-58.60	0.059
Nursing stressors						
Having another job	3.80	1.55-9.33	0.003	3.31	1.31-8.30	0.011
Lack of support	2.64	1.29-5.40	0.008	2.49	1.21-5.13	0.013
Death and suffering	1.83	.88-3.80	0.104	1.78	.85-3.72	0.125
Labor conditions						
Free time	.45	.19-1.05	0.068	.49	.21-1.16	0.110
Night shift	.34	.14-.82	0.016	.37	.15-.87	0.023

*Adjusted by age. OR= Probability ratio, CI= confidence interval 95%.

DISCUSSION

The results show a group primarily of women, whose principal activity is in hospitalization. Their main stressors are workload and they show a high rate of domestic work. The presence of the latter was observed to be associated with the development of depression and this association increased markedly when the analysis was performed only among women. Several studies have found prevalence rates of depression and other mental disorders related to nursing practice: 60% of nurses had some degree of depression[28], the prevalence of emotional tiredness and low personal performance[29]. In addition, the main repercussions of suffering depressive symptoms were increased absenteeism, intention to leave the job and low work engagement[30].

This study found a link between the presence of domestic work and depression ($p< 0.070$). Evidence indicates that domestic work is a risk factor that may increase depressive symptoms in nurses by interfering with their performance of family and work-related responsibilities[31].

Women showed a stronger relationship between domestic work and the presence of depressive symptoms, and this is related to social structure and gender organizations, where women carry out most of the activities related to the care and maintenance of the home[32].

A significant relationship ($p<0.008$) was also found between lack of support and depression. In this regard, the literature notes that social support of nurses in the workplace was associated with reduced psychological distress and its component depressive symptoms. In addition, the work-family balance mediates the relationship between social support in the workplace and depressive symptoms[33].

Another variable related to the presence of depressive symptoms among nurses was the night shift ($p<0.016$). Although there is evidence that higher rates of depression among nurses working

the night shift may be associated with poor sleep quality and the presence of depression[34], the results of this research, contrary to expectations, show a protective effect of working at night. Qualitatively, nurses commented that there was a decrease in workload on the night shift and care activity was relaxed. This may explain the decrease in OR associated with depression.

The suffering and death of a patient were related to depression (p<0. 104). Depression and anxiety have been found to occur in a greater proportion of women in the face of the suffering and death of a patient and it increases in nurses working night shifts and weekends. Because of this, it is recommended to evaluate the mental health of nurses with some frequency and implement educational interventions to improve the physical and mental health of nursing professionals[28].

Depression was also associated with having another job (p<0.003), and multi-employment may affect the well-being of nursing staff due to the burden of working hours affecting their daily lives and not having enough time to recover from physical and mental exhaustion, thus causing sleeping and eating disorders[35].

Finally, the lack of free time was also associated with depression (p<0.068), nursing personnel do not have enough free time to carry out recreational activities as a result of long working hours, having to perform household chores or having another job, however, in the model stratified with women, the effect is no longer significant. Recreation is fundamental to the integral development of individuals because it contributes to the improvement of quality of life[36].

In Mexico, depression is the leading cause of incapacity in women[37]. According to the World Health Organization (WHO), it affects more than 300 million people[38]. Various working conditions have been associated with the development of depression in nurses such as long working hours[39]. irregular schedules[40], lack of support, low remuneration for their work[41], the potential for irreversible errors[42], death of patients, high workload[28] and hostile working environments[29].

Andrade and Landero[43] specify a classification of reconciliation strategies between the work-family conflict: Sequencing refers to part-time and job flexibility; referral involves support in obtaining care services and the extension of school hours, among others; promotion of cultural changes and designation of roles in the home whose objective is to prevent consequences for the health of nursing personnel.

One of the main limitations of this study was that the instruments measured quantitative aspects and therefore it was not possible to gain in-depth knowledge of the individual or cultural aspects that would allow us to have a more thorough insight into the phenomenon of the double working day in women.

CONCLUSIONS

The work-family conflict in participating nursing personnel is influenced by exposure to the death and suffering of patients, lack of support, additional employment and domestic work. Health institutions, therefore, need to promote a healthy work environment and implement strategic programs that

provide nurses with the tools to develop personal resources to address the reconciliation of the work-family conflict through cultural changes and home role designation.

It is recommended to investigate the long-term impact of strategies that seek to prevent and reduce subsequent mental problems, such as depression, to improve the quality of work and family life of nursing personnel.

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Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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