

Perception of the work context of nursing professionals in northwestern Mexico during the COVID-19

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ABSTRACT

Introduction: The COVID-19 pandemic revealed areas of opportunity in the health system and the need for a greater number of nursing professionals. **Objective:** Identify the perception of the work context of nursing professionals in northwestern Mexico during COVID-19 pandemic. **Methodology:** Exploratory, descriptive, correlational. and cross-sectional design. Non-random sampling of 170 nurses. Measurement instrument with Cronbach's alpha of 0.86. The data were processed using the SPSS V. 22.0 statistical program. The assumption of normality was tested with the Kolmogorov-Smirnov test and the homogeneity of variance with Levene. The Mann-Whitney and Kruskal-Wallis U tests were used. The level of significance allowed was 0.05. This research complied with the regulations of Mexico's General Health Act for Research. **Results:** Statistically significant differences were found in the perception of the work context of nursing professionals in northwestern Mexico, according to the type of institution where they work ($p=0.020$), the work shift ($p=0.004$), and the fact of having been infected with COVID-19 ($p=0.029$). **Conclusions:** The perception of the work context of nursing personnel in northwestern Mexico reveals aspects such as lack of assessment, little participation in decision making, and poor economic compensation; however, according to their statements, more than half of the participants like their work despite the risks.

Keywords: Nursing; Mexico; COVID-19 (DeCS).

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Percepción del contexto laboral de profesionales de enfermería del noroeste de México en tiempos de COVID-19

RESUMEN

Introducción: La pandemia por COVID-19, develo áreas de oportunidad en el sistema de salud y la necesidad de mayor número de profesionales de enfermería. **Objetivo:** Identificar la percepción del contexto laboral de profesionales de enfermería del noroeste de México en tiempos de pandemia COVID-19. **Metodología:** Diseño exploratorio, descriptivo, correlacional y transversal. Muestra no aleatoria de 170 enfermeras(os). Instrumento de medición con alfa de Cronbach de 0.86. Los datos fueron procesados mediante el programa estadístico SPSS V. 22.0. Se comprobó el supuesto de normalidad con la prueba de Kolmogorov-Smirnov y de homogeneidad de varianza con Levene. Se utilizaron las pruebas U de Mann-Whitney y Kruskal-Wallis. El nivel de significancia admitido fue de 0.05. Esta investigación se apegó al Reglamento de la Ley General de Salud en Materia de Investigación para la Salud de México. **Resultados:** Se encontraron diferencias estadísticamente significativas en la percepción del contexto laboral de profesionales de enfermería del noroeste de México, según el tipo de institución donde trabaja ($p=0.020$), el turno de trabajo ($p=0.004$) y el hecho de haber sido contagiada(o) con COVID-19 ($p=0.029$). **Conclusiones:** La percepción del contexto laboral del personal de enfermería en el noroeste de México, devela aspectos de falta de valoración, poca participación en la toma de decisiones y pobre compensación económica, lo cual está acompañado de la afirmación de que a más de la mitad de los participantes le gusta su trabajo a pesar del riesgo.

Palabras clave: Enfermería; México; COVID-19 (DeCS).

Percepção do contexto de trabalho dos profissionais de enfermagem do noroeste do México na época do COVID-19

ABSTRATO

Introdução: A pandemia COVID-19 revelou espaços de oportunidade no sistema de saúde e a necessidade de um maior número de profissionais de enfermagem. **Objetivo:** Identificar a percepção do contexto de trabalho dos profissionais de enfermagem no noroeste do México durante a pandemia COVID-19. **Metodologia:** Exploratória, descritiva, correlacional e design transversal. Amostragem não aleatória de 170 enfermeiras. Instrumento de medição com alfa de Cronbach de 0,86. Os dados foram processados no programa estatístico SPSS V. 22.0. A suposição de normalidade foi testada com o teste de Kolmogorov-Smirnov e a homogeneidade de variância com Levene. Os testes U de Mann-Whitney e Kruskal-Wallis foram usados. O nível de significância permitido foi de 0,05. Esta pesquisa está em conformidade com os regulamentos da Lei de Saúde Geral do México para Pesquisa. **Resultados:** Foram encontradas diferenças estatisticamente significativas na percepção do contexto de trabalho dos profissionais de enfermagem do noroeste do México, de acordo com o tipo de instituição onde trabalham ($p = 0,020$), o turno de trabalho ($p = 0,004$) e o fato de ter sido infectado com COVID-19 ($p = 0,029$). **Conclusões:** A percepção do contexto de trabalho da equipe de enfermagem no noroeste do México revela aspectos como falta de avaliação, pouca participação na tomada de decisões e baixa remuneração econômica; no entanto, de acordo com suas falas, mais da metade dos participantes gosta de seu trabalho, apesar dos riscos.

Palavras-chave: Enfermagem; México; COVID-19 (DeCS).

INTRODUCTION

The COVID-19 pandemic, which originated in December 2019 in Wuhan China, affected the world as a whole, and in relation to the work context of the nurses, it revealed positive aspects of the various health systems, such as the solidarity and commitment of health personnel, the collaborative efforts at global level to face this situation, among others. With respect to negative aspects, in addition to the high mortality and morbidity statistics of patients and health personnel, they highlighted the exposure of nurses to various occupational hazards, work overload, long working hours, and physical and psychological pressure (1,2). Likewise, the pandemic exposed the weaknesses of the health systems and the insufficient number of nursing professionals to deal with it, in addition to the great need for more suitable PPE, training, optimal working conditions, protocols based on international standards, participation of multidisciplinary teams, technology and access to economic compensation for the relevant role that nurses are playing (3).

This is due to the fact that nursing is an essential discipline in the health care, with strong contributions in the maintenance and/or recovery of the health of individuals, families, and/or communities in the different stages of the life cycle. In this sense, nursing professionals actively participate in the improvement of the quality of care (4) and due to the strong work developed by these professionals in the current context of the COVID-19 disease, the support provided by the nursing personnel in this scene is recognized as one of the main elements that lessen the problems shown by the health services and favoring the personal protection measures of their colleagues and the users of the services, standing up for the benefit of the human being (5).

However, throughout Mexico, there have been social demonstrations of discontent among nurses regarding the various

opportunities for improvement related to the conditions of the work environment (6); at the same time, even though there are nursing professionals with knowledge and confidence to deal with the pandemic due to university education and years of work experience, they also argue that due to the pandemic the work environment has become more hostile, with a heavier workload, where there is a need for more continuous training, with little access to adequate PPE, emotional exhaustion, lack of psychological support, among other situations that need to be addressed to explore the best ways to solve them and according to the results, promote the improvement of knowledge about the subject and contribute to the development of plans for continuous improvement in the work environment and working conditions of health care workers.

The current pandemic situation conducts leaders and decision makers to rethink the importance of health and life as the most precious assets of human beings. Therefore, it is necessary to identify areas of opportunity in health systems and, thus, determine improvement options for the nursing professional in order to provide safe and qualified care and impact on their own health and that of the patients. In view of the above, the objective of this study was to identify the perception of the work context of nursing professionals in northwestern Mexico in times of the COVID-19 pandemic, which will allow us proposing options for improvement in this context.

METHODOLOGY

Design type

Exploratory, descriptive, correlational, and cross-sectional study.

Analysis unit

Professional nurses who work in Health Institutions in the State of Sonora, who participate in the care of people with COVID-19 medical diagnosis and who are affiliated to the Sonora College of Nurses.

Population, sampling, and sample

The population includes the total number of nurses registered in the 2020 Administrative Information System of Human Resources in Nursing of the Ministry of Public Health in the State of Sonora, System that includes 8,789 nurses. A non-random sample of 170 nurses was selected and they were invited to participate via e-mail explaining the objectives of the research.

Variables

Sex, age, years of service, type of institution where the nurse works, type of contract, work shift, and work context perception.

Selection criteria

Nursing professionals working in health institutions where they take care of COVID-19 patients, regardless of sex, age, years of service, work shift, presence of COVID-19 infection, and who agreed to participate in the study.

Used instrument

A self-developed instrument was used to evaluate the perception of nursing personnel on the work context during the COVID-19 pandemic, which consists of 25 items on a Likert scale, where 17 items have the following response options: (a) 5: very frequently, (b) 4: frequently, (c) 3: occasionally, (d) 2: rarely, and (e) 1: never, while 8 items are answered with

the following options (a) 5: strongly agree, (b) 4: agree, (c) 3: undecided, (d) 2: disagree, and (e) 1: strongly disagree. The maximum score for the scale is 125 and a minimum of 25. In order to know the participants' perception of the work context, their total score on the scale, obtained by adding the scores of the 25 items, was taken as a global indicator. The scale presents 3 negative items which were inversely codified, so that a higher score is more positive about the perception of the nursing personnel regarding the work context.

The instrument was submitted to the psychometric evaluation process of validation and reliability. Content validation was carried out by means of a committee of experts and reliability by means of Cronbach's alpha reliability coefficient whose value was 0.86, without eliminating any item. In addition, an exploratory factor analysis was carried out by means of the Principal Components method and the criterion for the number of factors was Kaiser's rule. Prior to the factor analysis, the Kaiser-Meyer-Olkin test ($KMO=0.866$) and Bartlett's test ($\chi^2=2361.628$; $p<0.05$) were obtained, with acceptable values for the factor analysis, and it was verified that the sample size used in this study met the criterion that suggests that the minimum sample size should be 3 to 20 times the number of items included in the instrument (7). The exploratory factor analysis with the Varimax rotation method with Kaiser normalization provided 5 factors that explain 63.89% of the total variance, which were defined as: factor 1: Leadership and institutional support; factor 2: Protective equipment provided for COVID-19 patients; factor 3: Training on the treatment and care of COVID-19 patients; factor 4: Perception of teamwork; and factor 5: Fear and physical and mental fatigue. The instrument also included sociodemographic variables such as sex, age, years of service, institution where they work, type of contract, work shift, and presence of COVID-19 infection. Age was categorized into two groups (under 35 years and equal or above to 35 years) and years of service into three groups (0 to 10 years, 11 to 20 years, and 21 years or more).

Data collection procedure

Authorization was requested from the Sonora College of Nurses to have access to the e-mail addresses of professional nurses. Once the e-mail address of the nurses was obtained, an invitation was sent to them by e-mail where they were provided with the link to the survey, as well as a brief explanation of the research objectives, and the certainty that the answers would be anonymous. Finally, if they gave their informed consent for the publication of the results, they could answer the survey.

Data processing and analysis

Data were processed using the SPSS V. 22.0 statistical program. Descriptive tables with frequencies and percentages for the categorical variables and means, standard deviations and medians for the numerical variables age and years of service were included. To detect significant differences between the groups, the assumption of normality was first tested through the Kolmogorov-Smirnov test and homogeneity of variance by means of the Levene's test. When the assumptions were not met ($p < 0.05$), the non-parametric Mann-Whitney U test was used to look for significant differences in the total scale score between the groups of the categorical variables sex, age range, type of contract and institution, and the Kruskal-Wallis test to find differences between the groups of the variables range of years of service and work shift. A value of 0.05 was used as the significance level.

Ethical considerations

The ethical considerations of this research were in accordance with the Helsinki's Declaration and the Regulations of the Mexico's General Health Act for Research, it is risk-free, and the observance of anonymity and confidentiality is emphasized.

RESULTS

Regarding the sex variable, the majority corresponded to women with 77.6%. The mean age was 33.25 ($SD=7.87$) years, with 61.8% of the nurses under 35 years of age. The average years of service were 8.75 ± 7.54 years, with 70% in the range of 0 to 10 years. A total of 83.5% of the nurses worked in a public institution, 67.6% reported being a regular worker and 41.8% worked the morning shift; in addition, 31.8% of the nurses reported having been infected with COVID-19. This is shown in Table 1.

Perception of the work context of nursing personnel

Leadership and institutional support

Table 2 reports the responses to the instrument regarding the perception of nursing workers in the work context. The first question of the instrument was "I feel valued in my work", almost 29% answered very frequently or frequently, 44.1% answered occasionally and 27% perceived that they rarely or never felt valued in their work. 32.4% of the nurses in this study felt that they are considered when making decisions about the safety of their service (Item 2) and one out of three perceives that they are frequently given opportunities for improvement (Item 13). Moreover, 64% disagree with the salary they receive given the work they do (Item 14), 69.4% totally disagree with the perception of compensation in terms of the risk bonus they receive (Item 25), and 72.3% agreed that the authorities where they work have rarely or never asked how they feel (Item 18); however, 90% like their work despite the risk (Item 12).

Table 1. Demographic characteristics of the participants

Variables	N (%)
Sex	
Man	38 (22.4)
Woman	132 (77.6)
Age in years (Media ± DE)	
< 35 years	105 (61.8)
≥ to 35 years	65 (38.2)
Work seniority (years of service) (Mean ± DE)	
0 to 10 years	119 (70)
11 to 20 years	34 (20)
21 years or more	17 (10)
Type of institution where he works	
	<i>n (%)</i>
Private	28 (16.5)
Public	142 (83.5)
Type of work contract	
For a specific time or work	55 (32.4)
Permanent	115 (67.6)
Work shift	
Day	71 (41.8)
Afternoon	32 (18.8)
Night	57 (33.5)
Cummulative shift	10 (5.9)
Infected with covid-19	
Yes	54 (31.8)
No	116 (68.2)

Source: Own development

n=170

occasions, 25.9% mentioned frequently, and 35.9% rarely or never.

Safety equipment to care for COVID-19 patients

The 42.4% stated that PPE was provided on a frequent basis (Item 3). Regarding the perception of safety when using the PPE provided at work, the most common response was frequently (28.2%), followed by occasionally (25.9%), and rarely or never (27.1%) (Item 4). In relation to PPE, it was also asked whether they considered that it was sufficient (Item 15): 28.2% of the health workers perceived that it was sufficient on

Training on treatment and care of patients with COVID-19

Regarding training on the necessary information to prevent contracting COVID-19, one of the questions was whether this training was correct (Item 5), where 27.1% agreed; however, one out of four perceived that the training was insufficient. Similarly, regarding training regarding the treatment and care of patients with COVID-19 (Item 6), the most common response was disagreement with

29.4% followed by 23.5% who agreed. As for training on the topics necessary to prevent infecting patients (Item 7), 27.1% agreed and disagreed, respectively. Another question of analysis, given its relevance in the context, on the training of nursing personnel was whether their institution made sure that they really understood the training topics (Item 8), where more than 50% affirmed that their institution

rarely or never carried out this process. Finally, for this block, the nursing personnel were asked if in their work there is organization of the COVID-19 areas for safe patient care (Item 9), to which 32.4% mentioned that this was done frequently and 21.8% very frequently (Table 2).

Tabla 2. Frecuencias y porcentajes obtenidos en la escala to measure the perception of the work context in nursing professionals

Item	Very frequently	Frequently	Occasionally	Rarely	Never
1. I feel valued in my work	12 (7.1)	37 (21.8)	75 (44.1)	33 (19.4)	13 (7.6)
2. I feel included when safety decisions are made in my service area	15 (8.8)	42 (24.7)	55 (32.4)	36 (21.2)	22 (12.9)
3. I get all PPE to take care of COVID-19 patients	53 (31.2)	72 (42.4)	31 (18.2)	8 (4.7)	6 (3.5)
4. I feel secure when using the PPE that I get in my work	32 (18.8)	48 (28.2)	44 (25.9)	29 (17.1)	17 (10)
8. They assure I understood all training topics through supervision	20 (11.8)	31 (18.2)	29 (17.1)	43 (25.3)	47 (27.6)
9. The COVID area in my work is organized to provide safe care to the patients	37 (21.8)	55 (32.4)	41 (21.1)	21 (12.4)	16 (9.4)
10. I consider that my boss shows leadership in service management	23 (13.5)	55 (32.4)	47 (27.6)	22 (12.9)	23 (13.5)
11. I am afraid to get infected when taking care of patients with COVID-19	78 (45.9)	49 (28.8)	28 (16.5)	7 (4.1)	8 (4.7)
13. I have improvement opportunities in my work	37 (21.8)	56 (32.9)	45 (26.5)	22 (12.9)	10 (5.9)
15. The PPE given by my institution is sufficient and of good quality	17 (10)	44 (25.9)	48 (28.2)	41 (24.1)	20 (11.8)
16. I feel overwhelmed due to physical and mental exhaustion	82 (48.2)	47 (27.6)	33 (19.4)	7 (4.1)	1 (0.6)
17. My boss supports me and makes me feel better when I leave the area	16 (9.4)	33 (19.4)	39 (22.9)	49 (28.8)	33 (19.4)
18. The authorities in my unit have asked me how I feel	11 (6.5)	13 (7.6)	23 (13.5)	40 (23.5)	83 (48.8)
20. I have been attacked for being nurse in the street or in other place	3 (1.8)	8 (4.7)	19 (11.2)	36 (21.2)	104 (61.2)
21. I have been victim of discrimination because I am a nurse	4 (2.4)	6 (3.5)	29 (17.1)	38 (22.4)	93 (54.7)
22. In my service area all nursing personnel work in teams	48 (28.2)	65 (38.2)	41 (24.1)	16 (9.4)	0
23. In my service are, medical personnel work hand in hand with nursing personnel	30 (17.6)	58 (34.1)	40 (23.5)	37 (21.8)	5 (2.9)

	Totally agree	Agree	Indecisive	Disagree	Totally disagree
5. I feel I was properly trained in subjects necessary to prevent COVID-19 contagions	30 (17.6)	46 (27.1)	32 (18.8)	43 (25.3)	19 (11.2)
6. I feel I was trained in the treatment and care of COVID-19 patients	22 (12.9)	40 (23.5)	33 (19.4)	50 (29.4)	25 (14.7)
7. I was trained in all subjects necessary to prevent contagions among patients	27 (15.9)	46 (27.1)	33 (19.4)	46 (27.1)	18 (10.6)
12. I like my work despite the risk involved	102 (60)	51 (30)	12 (7.1)	3 (1.8)	2 (1.2)
14. My salary corresponds to the work I do	11 (6.5)	27 (15.9)	23 (13.5)	57 (33.5)	52 (30.6)
19. I feel so unsure that I would resign to my work if I could	22 (12.9)	26 (15.3)	44 (25.9)	48 (28.2)	30 (17.6)
24. I feel that society acknowledges more my work as nurse	18 (10.6)	48 (28.2)	46 (27.1)	44 (25.9)	14 (8.2)
25. I feel compensated with the bonus I receive due to work risk	3 (1.8)	7 (4.1)	8 (4.7)	34 (20)	118 (69.4)

Source: Own development

Aggression against nursing personnel

Perception of teamwork

Regarding the nursing personnel's perception of the support they receive from their area manager (Item 17), 48.2% mentioned that they rarely or never receive it; however, the majority (66.4%) affirmed that all the nursing personnel work as a team (Item 22) very frequently or frequently, as well as the medical personnel (51.7%) (Item 23).

Fear and physical and mental fatigue

74.7% of the nurses surveyed agreed that they are very frequently or frequently afraid of becoming infected when caring for patients with COVID-19 (Item 11), a very similar percentage (75.8%) who answered very frequently or frequently feel overwhelmed by physical and mental fatigue (see Table 2).

Two questions that were added to the questionnaire refer to violence or aggression towards nurses, to which more than 50% of the respondents stated that they had never been the subject of aggression or discrimination just because they were nurses (Items 20 and 21 of Table 2).

Relationship between the total score of the scale and some sociodemographic variables

Table 3 shows some descriptive measures by group of the total score of the scale designed to measure the job perception in nursing personnel are shown in Table 3. Both the mean and median were slightly higher in the male sex, and nursing personnel aged 35 years or above reported a higher positive perception than those younger than 35 years. In terms of years of service, a higher score on the scale was observed in those who have been working for more than 20 years, but as in the case of the sex and age variables, these differences were not statistically significant. There are significant differences according to the institution where they work ($p=0.020$), being

better evaluated the nurses who work in private health institutions; likewise, those of the cumulative shift are perceived with a more positive attitude than those who work in other shifts ($p=0.004$), seeing a lower score in those of the night shift. In addition, it was seen that the positive perception was lowered by the fact

of having been infected by COVID-19, compared to those who did not have COVID-19 ($p=0.029$).

Table 3. Mean, standard deviation, median and p value of the total score of the scale to measure the perception of work in nursing professionals.

Variables	Mean \pm SD	Median	P*
Sex			
Man	72.78 \pm 16.12	75	
Woman	67.28 \pm 15.78	65	0.125
Age in years			
< 35 years	66.82 \pm 15.62	65	
\geq 35 years	71.22 \pm 16.27	72.5	0.128
Work seniority			
0 to 10 years	67.54 \pm 16.15	65	
10 to 20 years	68.27 \pm 12.63	65	0.177
More than 20 years	75.53 \pm 19.37	77	
Type of institution where he works			
Private	73.75 \pm 14.28	75	
Public	67.44 \pm 16.12	64	0.020*
Type of contract			
For a specific time or work	68.35 \pm 17.09	63	
Permanent	68.55 \pm 15.49	69	0.614
Work shift			
Day	72.30 \pm 16.30	74	
Afternoon	61.5 \pm 12.95	59	
Night	66.48 \pm 15.60	65.5	0.004**
Cummulative shift	75 \pm 16.28	75.5	
Infected with Covid-19			
Yes	64.48 \pm 14.34	63	
No	70.36 \pm 16.39	71	0.029*

Source: Own development. p value was obtained with the Mann-Whitney U Test for variables with two groups and with the Kruskal-Wallis for three. Significant p^* at a 0.05 level; significant p^{**} at a level of .01.

DISCUSSION

Internationally speaking, it is recognized that nurses are an important part of any health system. They make their best effort, remaining in the fore front of struggle against the virus, even when the protection of the worker's rights are not guaranteed, since the safety and health conditions to preserve their health are deficient. This is demonstrated by unfortunate figures that show that as of October 2020, more than 1,500 nurses died around the world as a result of COVID-19 in 44 countries, and it is estimated that the deaths of health workers from the same disease could be more than 20,000 (8).

In northwestern Mexico, regarding the leadership and institutional support perceived by nursing professionals, almost half of the participants said that they occasionally feel valued; one third mentioned that they are taken into account when making decisions about safety in the service in which they work, and only one in three perceived frequent opportunities for personal improvement. In addition, more than half disagreed with the salary and bonuses received for taking care of patients with COVID-19, and more than half mentioned that the authorities have not asked them how they feel about the situation. The above is similar to Ecuadorian authors who mention that there are deep transformations within the work environment resulting from the pandemic and these are related to aspects of the work context that must be improved starting with government actions that have a deep impact on the organization of the health system, for the benefit of the beneficiaries' health and that of the workers exposed to biological, physical, chemical, ergonomic, and psychosocial risks, among others (9).

Therefore, health care workers must cope with the expression of huge anguish of third parties, without jurisdiction to solve them due to the difficulty that this implies, for example, pain, respiratory distress, and death of people with whom a therapeutic relationship is established, or, sometimes they have to

provide comfort to bewildered family members (10).

However, almost all of the nursing professionals who participated in this study liked their work despite the risk and suffering to which they are exposed, which could affect their emotional state and this in turn could have repercussions on their work performance, since the quality of care provided could be influenced by the level of well-being or discomfort experienced by the service provider, so that ensuring working conditions that reduce physical and emotional exhaustion is so important in nursing, as well as raising awareness among professionals and institutions regarding the nature and occurrence of work-related stress, which would bring benefits to both (11).

Regarding the PPE provided for COVID-19 patient care, almost half stated that PPE was frequently provided, which differs from that reported in a study from Ecuador (9). Nevertheless, more than half mentioned that they did not feel safe when using it and that it was not sufficient either in quantity or quality.

It is well known that health risks to nursing personnel from the environment can be physical, chemical, biological, technological and safety factors, caused by natural disasters, and ecological imbalances, and, thus, working conditions can compensate or intensify these risks (10); therefore, providing sufficient and qualified PPE should be a priority for health institutions and should not be acquired with the workers' own resources.

For the majority of the population, the pandemic has been the trigger of some reactions such as stress, anxiety, anguish, among others, and undoubtedly, worldwide, the health personnel in the hospitals have been the sector that has been most affected. This behavior could be corroborated in this study, where fear and physical and mental fatigue is evident in more than half of the participants, which exceeds the capacity of some of them, since during their activity in times of pandemic, the health worker in addition to undergo biological risk, he supports physical, psychological, and mental demands. If during the time off the health personnel do not

recover from fatigue and if the workload exceeds their capacity for resistance and adaptation, the work can lead to pain, suffering, and predisposition to catch diseases (10).

Regarding aggressions and discrimination towards nurses, more than half of the participants mentioned that they have never perceived these behaviors. However, in several countries there have been known aggressions or insults to health workers and in northwestern Mexico, there is evidence that some health professionals are prevented from accessing public transportation and even their homes and others have had to endure anonymous notes in which their neighbors ask them to move for the duration of the pandemic for fear of being infected (12). This implies unfortunate situations that add to the difficult work situation in which they are already involved, especially nurses in the public sector, since the present research found statistically significant differences in the perception of the work context, where the private work context was better evaluated.

When analyzing the definition that Colombian authors (13) offer about the work context in nursing, they emphasize that it is a set of methods, strategies, and management systems that integrate the internal and external reality of health entities, institutions, and organizations. Its construction depends to a great extent on management and administration focused on the development of human talent to achieve intangible capital and good results in the practice of assistance and health care. It can be argued that the work context of private health institutions in northwestern Mexico is more controlled in managerial and organizational aspects, where the lower amount of patients and the better access to material and equipment, as well as technology, favor the perception that workers have in relation to it.

Regarding the work shift, those who work accumulated working hours, which is understood as the work shift where weekends and holidays are worked, have a better perception of the work context than those who work in other shifts. This could be attributed to

the fact that nursing in this shift have a greater capacity to organize different activities, such as work time, leisure time, family time, time off, among others. However, given the need for a greater number of nurses, it would be impossible to organize this type of schedule for all personnel.

The results of this study revealed that the fact of having been infected by COVID-19 made that the perception of the work context were negative when compared to those who were not infected, which could be associated to the fear of death and/or the transmission of the disease to their family members, which is documented and verbalized by nurses: "For many nursing professionals, the number of deaths associated to the COVID-19 pandemic is a cause of anguish and conflicting emotions. In addition, in some countries there has been considerable loss of lives among nursing professionals due to COVID-19 and for this reason many of these professionals are not only mourning the loss of family members and neighbors, but also the loss of colleagues and friends. The proximity and magnitude of the loss of lives may also cause nursing professionals to fear for their own well-being (14).

Moreover, one of the limitations of this study was to consider a non-random sample, in accordance with the current conditions related to the health contingency, since it was impossible to select a probability sample. Therefore, it is necessary to interpret these results with caution. Likewise, we recommend continuing to explore this same line of research using random sampling.

CONCLUSIONS

The evaluation of the work context of nursing personnel in northwestern Mexico, from the perception of nurses who care for people with COVID-19 medical diagnosis, reveals feelings of being undervalued, little participation in the decision making process regarding safety in the service and poor economic compensation, which do not have an influence in the great

satisfaction they express when performing their work. PPE to care for patients with COVID-19 is provided by the institution where they work; however, there is still a feeling of lack of safety related to the poor quality and sufficiency of this equipment, which is accompanied by feelings of fear and physical and mental exhaustion. The perception of the work context of nursing personnel in northwestern Mexico in times of COVID-19 is influenced by the type of institution where they work, the work shift, and whether or not they have been infected with COVID-19.

CONFLICTS OF INTEREST

The authors state that they have no conflicts of interest.

FINANCING

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