



ORIGINALES

Burnout syndrome in nursing personnel working in the critical care and hospitalization units

Síndrome de burnout en el personal de enfermería de unidades de cuidado crítico y de hospitalización

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ABSTRACT:

Introduction: The objective of the study was to identify the prevalence of the Burnout Syndrome and its dimensions in the nursing personnel working in the critical care and hospitalization units.

Methodology: A descriptive, observational, and cross-sectional study was performed in 90 nurses. The Maslach Burnout Inventory for health personnel was used. An exploratory, descriptive, and inferential analysis was carried out; the Mann Whitney U and Kruskal Wallis tests statistics were used.

Results: A medium level regarding the burnout syndrome, 82.2%, was found; emotional exhaustion decreased by 62.2%; low level of depersonalization, 57.8%, and low level of lack of personal accomplishment, 40%. There was a statistically significant difference between burnout syndrome and work shift, double work shift per month, vacation periods per year, and workload; between emotional exhaustion and type of service, two-week income, double work shift, vacation periods, type of procurement, and workload; between depersonalization and workload; and between lack of personal accomplishment and type of service, work shift, two-week income, rest period during the shift, vacation periods per year, and type of procurement.

Conclusions: A higher percentage of nursing personnel had a mild burnout syndrome. No statistically significant difference between burnout syndrome and its dimensions and the sociological characteristics of the nursing personnel was found. Evidence that job characteristics are those that show more influence in the development of the burnout syndrome was found.

Key words: Burnout syndrome, emotional exhaustion, depersonalization, lack of personal accomplishment, nursing personnel.

RESUMEN:

Introducción: El objetivo del estudio fue identificar la prevalencia del Síndrome de Burnout y sus dimensiones en el personal de enfermería de unidades de cuidado crítico y de hospitalización.

Metodología: Se llevó a cabo un estudio observacional descriptivo, transversal en 90 enfermeras y enfermeros. Se utilizó el Cuestionario de Maslach Burnout Inventory para el personal de salud. Se realizó análisis exploratorio y análisis descriptivo e inferencial; se emplearon los estadísticos U de Mann Whitney y Kruskal Wallis.

Resultados: Se encontró nivel medio de Síndrome de Burnout 82.2%; Agotamiento Emocional bajo 62.2%; nivel bajo de Despersonalización 57.8% y nivel bajo de Falta de Realización Personal 40%. Se evidenció diferencia estadísticamente significativa entre Síndrome de Burnout y turno de trabajo, doble turno al mes, períodos vacacionales al año y carga de trabajo; entre Agotamiento Emocional y tipo de servicio, ingreso quincenal, doble turno al mes, períodos vacacionales, tipo de contratación y carga de trabajo; entre Despersonalización y carga de trabajo; y entre Falta de Realización Personal y tipo de servicio, gusto por el servicio, turno de trabajo, ingreso quincenal, períodos de descanso en el turno, períodos vacacionales al año y tipo de contratación.

Conclusiones: Un porcentaje mayor del personal de enfermería obtuvo nivel medio de Síndrome de Burnout. No se encontró diferencia estadísticamente significativa entre el síndrome de Burnout y sus dimensiones con las características sociológicas del personal de enfermería. Se encontró evidencia de que las características laborales son las que presentan mayor influencia en el desarrollo del Síndrome de Burnout.

Palabras clave: Síndrome de Burnout, Agotamiento Emocional, Despersonalización, Falta de Realización Personal, Personal de Enfermería.

INTRODUCTION

The main purpose of this research is to determine the prevalence of the burnout syndrome in nursing personnel who work in the critical care and hospitalization units of a secondary care hospital. The results of this study allowed the identification of social and labor factors of the nursing professional which influence the development of the aforementioned syndrome.

The burnout syndrome (SB by its acronym in Spanish) was defined as a response that a person shows to chronic labor stress which is expressed by negative attitudes and feelings toward the individuals that they work with and toward their own professional role. People with this syndrome experience the feeling from being emotionally drained, and this response occurs most often in the health professionals. The term burnout was introduced by Freudenberger in the mid-1970s to give an explanation to the negative process suffered by personnel in their job performance. It is manifested as a deterioration of the personal attention to the patients of the institutions that fundamentally provide the services^(1, 2).

Subsequently, in 1982, Maslach developed a questionnaire based on the responses of the workers to different situations in their everyday working life, in order to measure and assess the 3 basic dimensions of the syndrome, namely, emotional exhaustion (AE by its acronym in Spanish), depersonalization (DP), and lack of personal accomplishment (FRP by its acronym in Spanish); that is, it is a group of behaviors (reduction of physical and intellectual performance, loss of responsibility, passive-aggressive attitudes with the recipients of the professional service, decreased motivation) where internal factors (individual and social values, personality features)

and external factors (organizational, work-related, and those of the group)⁽³⁾ are involved.

Nursing professionals have been identified as one of the main groups of risk for the development of SB or burnout syndrome. From a psychosocial perspective, several authors admit the definition proposed by Maslach and Jackson, who point out that the SB can be assumed as syndrome of emotional exhaustion, depersonalization, and lack of personal accomplishment in the work setting, which is developed as a result of the continuous exposure to various job stressors⁽⁴⁾.

Subjects affected by this syndrome show disillusionment, irritability, anger, feelings of frustration, suspicious attitudes, stiffness, inflexibility, and stubbornness. Likewise, as a consequence, psychosomatic symptoms show up and deterioration of the health of the persons affected by this syndrome occurs. The persons affected are identified with symptomatology that is grouped in four large groups according to its manifestation, that is, emotional, attitudinal, behavioral, and psychosomatic^(3, 5).

The cardinal symptoms of the SB are: feeling of low personal accomplishment, tendency to negative self-evaluation, high levels of emotional exhaustion, verbal expression of inability to give more of himself to solve the problems of the care recipient, dehumanizing treatment or depersonalization, development of behaviors that do not correspond to the usual treatment of the person, and derision due the use of an emotional armor, among others. According to the gravity of the syndrome, the manifestations are classified as follows: mild (unspecific and frequent complaints, tiredness, reluctance to go to work, difficulty to get up in the morning); moderate (cynicism, isolation, suspicion, and negativism); severe (absenteeism from work, slow performance of activities, self-medication, aversion, and abuse of licit and illicit drugs); and finally, extreme (acute social isolation, breakdown, psychiatric symptoms, and suicides)⁽⁶⁾.

The employment context of nursing professionals is defined by problems related to work conditions clearly marked by psychosocial risks, grueling and long shifts, work overload, rotating shifts, unscheduled service changes, and stress due to the presence of critical and demanding situations with the users, relatives, and even colleagues and professionals from the work team. These facts can lead to an increasing tendency in the development of occupational risks which in turn may cause physiological alterations⁽⁶⁻⁸⁾.

International studies highlight that a lower number of nurses is associated to increased mortality and morbidity of patients and poorer quality of the professional care provided to patients^(9,10). Likewise, there is evidence that nursing personnel show an increase in the probability of absenteeism from their work due to illnesses whose main causes are stress and work dissatisfaction⁽¹¹⁾.

This way, the work becomes an element that favors burnout and suffering of the workers; when the organizational environment leads to suffering, the person develops defense mechanisms to confront and manage it, without affecting his own humanity. However, when problems increase and the worker is emotionally exhausted, both frustration and work itself do not allow him to feel fulfilled; thus, the organization environment becomes more stressful, even potentially threatening for the workers⁽⁸⁾.

Nowadays SB is a frequent work risk factor among nursing personnel. It is a disease that has been recognized by several scholars in labor psychology and sociology. Its manifestations gradually occur in nursing personnel and if they are not identified and treated in a timely manner, it can cause labor disability and absenteeism, or even the person's labor and social death, caused by excessive emotional exhaustion⁽¹²⁾.

This syndrome has been analyzed by national and international nursing experts. They have highlighted the severity of the problem faced by this group of professionals when facing, on their daily life, the stress posed by their activities, both in public and private hospitals. The need to study this syndrome as a risk factor that leads to labor pathology joins the requirements needed to analyze the processes involved in labor stress as well as the interest that some organizations currently have for their employees in order to provide them a better quality of (working) life⁽¹³⁾.

Thus, and due to the fact that nursing is among the professions that are subject to high levels of stress, and that stress affects the quality of life of the services provided by nursing personnel, it has become imperative to evaluate their performance to keep and promote a satisfactory work environment, with important results not only to deliver excellent care to patients, but specially for the nursing personnel who are the one who provides the care.

MATERIAL AND METHODS

A descriptive, observational, and cross-sectional study was performed. The study population was comprised by nursing personnel who work at a secondary care public hospital in the state of Sonora, Mexico. The sample was probabilistic; it was estimated by means of the software called STATS, with a level of confidence of 0.95 and error margin of 0.05. The size of the sample was 90 nurses (male and female) who provided direct care to patients in selected hospital services. In this study, in order to collect data a questionnaire comprised by 39 questions, 22 of which correspond to the Maslach Burnout Inventory (MBI) and 17 to sociological and labor variables, was used.

With respect to sociological variables, the indicators age, gender, marriage status, and number of children were considered; and with respect to labor variables, the indicators hospital services, the taste for service, work shift, monthly double shift, professional preparation, working hours per week, breaks during the shift, workload, rest periods, type of procurement, labor seniority, by-monthly salary, and vacation periods per year were considered.

Regarding the measurement of the depending variable, the Maslach Burnout Inventory Human Services Survey, MBI-HSS, was used. This questionnaire designed by Maslach and Jackson allows assessing the presence of the burnout syndrome in health personnel, and has been validated for Latin American and Mexican populations^(14, 15).

This questionnaire is comprised by 22 items in form of statements measured by the Likert scale that goes from 0 (never) to 6 (every day) points; it examines the feelings and attitudes of the professional in his work and toward patients. The score fluctuates from 0 to 132 points, and the result is directly proportional to the presence of the burnout syndrome. The MBI-HSS is answered in 10 to 15 minutes and measures the three dimensions included in the syndrome, that is, emotional exhaustion,

depersonalization, and lack of personal accomplishment. It is classified in three levels, namely, low (≤ 43), medium (44-87), and high (≥ 88).

This variable was assessed also through its dimensions, and the values assigned to them, as shown in table 1:

Table 1: Values of the dimensions of the Maslach Burnout Inventory.

	Low	Medium	High
Emotional Exhaustion	≤ 18	19-26	≥ 27
Depersonalization	≤ 5	6-9	≥ 10
Lack of Personal Accomplishment	≥ 40	34-39	≤ 33

The procedure to collect information was carried out during November and December 2017, in the Surgery, Gynecology, Internal Medicine, Pediatrics, Intensive Care Unit (ICU), Neonatal Intensive Care Unit (NICU), Pediatric Intensive Care Unit (PICU), Intermediate Therapy Unit (ITU), and Emergency units of the selected hospital. Prior to filling out the questionnaire, the informed consent was requested through reading and signing a document designed for such use⁽¹⁶⁾.

The data obtained was entered into the statistical software called SPSS (Statistical Package for the Social Sciences), version 22.0. To characterize the study subjects, a descriptive preliminary analysis was carried out (central tendency and dispersion measures) for continuous and discrete variables; Kolmogorov Smirnov tests were performed to check the data for normality. Since dependent variables did not show normal distribution, nonparametric statistics was used. The difference of medians and statistical significance was evaluated using the Mann Whitney U Test and Kruskal Wallis Test.

The research was performed after a favorable opinion from the Ethics Committee of the Nursing Department of the Universidad de Sonora and the health institution where the study took place was obtained as foreseen in the regulations concerning research on human subjects⁽¹⁶⁾.

RESULTS

In relation to socio-demographic variables, it was found that the sample was comprised largely by women, with an average age of 33.7 years; 46.7% of them were married and had one to two children. A little more than half of the nurses were located in the hospitalization area and 56% declared they like the service where they are working, with higher percentage in the morning and night shifts, with working hours ranging from 31 to 40, by-monthly salaries ranging from 3001 to 5000 (Mexican) pesos, almost half of the participants have between 1 to 5 years seniority, and only 11% had more than 21 years working, which relates to the fact that the majority was not part of the core staff, and works 1 to 2 double shifts per month, almost 25% did not

have vacations and the rest had from 1 to 3 vacation periods per year. Among other characteristics, it was considered that their workload is moderate and 82.2% takes from three to four rest periods during the work day; only 21% had an additional job and most of the personnel had a Bachelor of Science degree in nursing.

Regarding the results obtained for the burnout syndrome, it can be seen that the exhibited scores tended to be in the medium range, with an average score of 56.57; emotional exhaustion tended to be low with an average of 15.32; it was similar for depersonalization, showing an average of 5.13; and lack of personal accomplishment tended to be high with an average of 36.1 (Table 2).

Table 2: Distribution of nursing personnel according to their burnout syndrome, their dimensions and level

<i>Burnout Syndrome, dimensions and level</i>	<i>n</i>	<i>%</i>	<i>MTC*</i>
Burnout Syndrome (0-132)			
High (≥ 88)	3	3.3	$\bar{X} = 56.57$ $DE = 17.08$
Medium (44-87)	74	82.2	
Low (≤ 43)	13	3.3	
Emotional Exhaustion (0-54)			
High (≥ 27)	17	18.9	$\bar{X} = 15.32$ $DE = 10.10$
Medium (19-26)	17	18.9	
Low (≤ 18)	56	62.2	
Depersonalization (0-30)			
High (≥ 10)	19	21.1	$\bar{X} = 5.13$ $DE = 5.26$
Medium (6-9)	19	21.1	
Low (≤ 5)	52	57.8	
Lack of Personal Accomplishment (0-48)			
High (≤ 33)	26	28.9	$\bar{X} = 36.11$ $DE = 11.01$
Medium (34-39)	28	31.1	
Low (≥ 40)	36	40.0	

*MTC, Central tendency measure; \bar{X} , mean; DE, standard deviation.

Source: Instrument

() Cut-off point for the classification of levels in every dimension.

Regarding the classification established and its percentage distribution, it was found that 82.2% of the nursing personnel showed a medium level of SB; in AE, 62.2% of the personnel showed a low level; and a similar percentage (18.8%) showed AE high and medium. The dimension of DP indicates low level in 57.8% of the personnel, while the high and medium levels were present in a similar percentage in both levels (21.1%). It was found that for this dimension 40% showed a low level of FRP; 31.1% showed a medium level; and 28.9% showed a high level (Table 2).

When studying existing relations between the burnout syndrome and the sociological characteristics of the nursing personnel, it was found that the presence of SB and its dimensions is independent of the age group, gender, marriage status, and number of children of the nursing personnel.

Table 3: Intersection of two variables with statistical significance

VARIABLES	Burnout Syndrome	Emotional Exhaustion	Depersonalization	Lack of Personal Accomplishment
Type of service	$U = 913.0, p = .458$	$U = 686.5, p = .010$	$U = 793.0, p = .083$	$U = 628.5, p = .002$
A taste for service	$H = .523, p = .770$	$H = 1.636, p = .441$	$H = 3.291, p = .193$	$H = 12.086, p = .002$
Work shift	$H = 15.662, p = .001$	$H = 1.704, p = .636$	$H = 1.797, p = .616$	$H = 20.568, p = .000$
Two-week income	$H = .179, p = .915$	$H = 7.563, p = .023$	$H = .573, p = .751$	$H = 9.828, p = .007$
Labor seniority	$H = .567, p = .989$	$H = .313, p = .997$	$H = 1.743, p = .883$	$H = 1.382, p = .926$
Double work shift per month	$H = 7.390, p = .007$	$H = 4.462, p = .035$	$H = 1.973, p = .160$	$H = .328, p = .567$
Rest period in the shift	$H = 4.426, p = .219$	$H = .723, p = .868$	$H = .337, p = .953$	$H = 8.150, p = .043$
Vacation periods per year	$H = 7.983, p = .046$	$H = 8.079, p = .044$	$H = 5.471, p = .140$	$H = 15.676, p = .001$
Type of procurement	$H = 5.334, p = .069$	$H = 10.570, p = .005$	$H = .384, p = .825$	$H = 10.405, p = .006$
Workload	$H = 13.348, p = .001$	$H = 8.732, p = .013$	$H = 6.541, p = .038$	$H = 1.615, p = .446$

Source: Instrument

Abbreviations: *U*, Mann Whitney Test; *H*, Kruskal Wallis Test; *p*, value for the difference of medians.

It was noted, among the job characteristics, that SB and DP did not show a significant difference according to the service provided. However, AE and FRP showed a significant difference, and it was found that the nursing personnel who work in hospitalization units showed more emotional exhaustion than those in critical care units. On the other hand, personnel who work in critical care units show lower “lack of personal accomplishment”.

FRP showed association with the taste for service. Nursing personnel who really like the service where they work, showed lower “lack of personal accomplishment” than those who do not like the service, or who like it less. AE and DP did not show a significant difference in relation to the work shift where the nursing personnel work. However, it was observed that the SB and FRP levels showed a significant difference regarding the work shift. Nursing personnel who work in morning, evening, or night shifts showed higher scores in SB and lower scores in FRP than those who work in cumulative shifts (Table 3), and the presence of SB and its dimensions is independent of the number of hours per week worked by the nursing personnel.

According to the two-week income of nursing personnel, the levels of SB and DP did not show a significant difference, but FRP and AE showed association among them. The nursing personnel who make from three thousand one to five thousand pesos showed higher AE than the other groups, as well as the nursing personnel who make more than five thousand pesos fortnightly, showed lower FRP than those who make from two thousand to five thousand pesos (Table 3). The SB levels and their

dimensions did not show a significant difference according to the labor seniority and the presence of SB and its dimensions are independent of the number of years the nursing personnel have worked in the health institution.

Additionally, it is observed that SB and AE showed a significant difference according to the number of times that the personnel worked double shifts in one month. The nursing personnel who worked double shifts 1 or 2 times per month, and 5 or more times, showed higher score in SB than personnel who double shifts between 1 and 4 times per month, and personnel who double shifts 1 or 2 times per month showed higher AE (Table 3).

It was found that FRP showed a significant difference with respect to rest breaks during the work day. The nursing personnel who do not take any rest break during the working day showed higher FRP than those who take a rest break during the working day (Table 3). Likewise, with the SB levels it was clear that AE and FRP showed a significant difference according to the number of vacation periods. The nursing personnel who do not take any vacation period showed a higher score regarding SB and AE than those who took 1 or 2 vacation periods; by contrast, personnel who took 3 vacation periods showed lower FRP (Table 3).

Regarding the type of procurement of the nursing personnel with the AE and FRP levels, significant differences were shown. The nursing personnel who were hired as fixed substitute, showed higher AE than those hired as temporary or core employees, who showed lower FRP (Table 3).

The nursing personnel who considered that their workload is high showed higher scores in SB, AE, and DP than those who considered their workload as low or moderate (Table 3).

DISCUSION

The results found showed that the nursing personnel have problems with the burnout syndrome. It was observed that the score shown by the participants in the measuring scale tended to be medium ($Mdn = 55.0$) and that most of the personnel (82.2%) showed a medium level of SB. Some studies carried out in Mexico⁽¹⁷⁻²⁰⁾ and other studies carried out abroad⁽²¹⁻²³⁾ found prevalences lower than the medium level of burnout; by contrast, in studies carried out in Spain and Peru^(2,24), and another one carried out in Mexico⁽¹⁾, reported prevalences higher than the ones found in this study.

With regard to the dimension of emotional exhaustion, the results showed that the score observed in the measuring scale tended to be low ($Mdn = 14.5$) and that most of the personnel (62.2%) showed a low level of AE. Some studies carried out in Mexico^(17,19,20), and others carried out abroad^(2,17,19,20), found prevalences higher than the low level of AE. However, a study carried out in Mexico⁽¹⁸⁾, and others carried out abroad^(6,22-25), reported a similar prevalence that the one found in this study.

About the depersonalization dimension, the results showed that the score observed in the measuring scale tended to be very low ($Mdn = 3.0$) and that most of the personnel (57.8%) showed a low level of DP. A study showed a similar median value⁽²⁰⁾. Additionally, some studies carried out in Mexico^(17,18, 19,20), and other studies carried

out abroad^(22, 26), found prevalences higher than the low level of DP. However, a study carried out in Spain reported a prevalence similar to the one found in this study⁽²⁵⁾.

With respect to the FRP dimension, the results showed that the scores observed in the measuring scale tended to be high (*Mdn* = 38.0) and that most of the personnel (40.0%) showed a low level of FRP. A study carried out in Peru⁽²⁴⁾ showed a similar median value (*Mdn* = 42.0). Additionally, some studies carried out in Mexico^(17,19,20), and other studies carried out abroad^(22,25,26), found prevalences lower than the low level of FRP. Moreover, a study carried out in Colombia⁽²¹⁾, and another one carried out in Spain⁽⁶⁾, gave a prevalence similar to the one found in this study.

The results obtained in this study indicated that there is no significant difference between SB and its dimensions with respect to the variable gender. These results do not agree with some research that reported that the female gender had more risk to develop burnout^(2,18,19,23,27). Conversely, other studies support that male personnel is the one who show SB^(21,22).

With respect to age, no significant difference with any of the SB dimensions was found. The studies revised established different results: it occurs in people over the age of 50⁽²⁷⁾ and between the ages of 35 and 44 years⁽²³⁾ or younger than 45 years⁽²⁾. A study that is consistent with our results, carried out in Colombia⁽²⁶⁾, did not report a significant difference between the development of SB and age.

With reference to the variable marital status, a significant relationship with the SB and its dimensions was not obtained. These results are compatible with a study performed in Peru⁽²⁴⁾, but different to the results reported in Colombia⁽²¹⁾ where it was found that the SB had more prevalence between those who did not have a stable relationship as a couple. The presence of burnout and its dimensions did not show a significant difference according to the number of children. On the contrary, a study performed in Colombia⁽²¹⁾ found that the risk to show SB increases 2.5 times in personnel who have children with respect to personnel who do not have children. Likewise, Miranda Lara, in Mexico, reported a significant difference between SB and having 2 or 3 children⁽²⁷⁾.

Interestingly, none of the sociological variables studied in this research was associated to SB and its dimensions. This result is consistent with the one found in Colombia⁽²⁶⁾ since, as in this study, no significant difference with any of the sociological variables studies was found.

In the analysis made to the variable service, contrary to expectations, personnel who work in critical care units showed lower emotional exhaustion and lower lack of personal accomplishment than personnel who work in the hospitalization units. A research carried out in Spain⁽²⁵⁾ obtained similar results, since the personnel who work in the medical and surgical units showed higher prevalence of SB, AE, and DP than personnel who work in critical care units. However, this same study reported that those who work in critical care units showed higher personal accomplishment than those who work in the medical and surgical units, while another study identified higher prevalence of SB in the psychiatry area⁽⁶⁾. Also, similar results⁽²⁷⁾ were reported in studies carried out in Mexico, where it was found that the SB showed was significantly higher in those who work in the critical area.

Nursing personnel who work in the morning, evening, and night shifts showed higher SB scores, and lower FRP scores than those who work in a cumulative shift. A study

carried out in Colombia⁽²⁶⁾ found a significant difference, since personnel who work in the evening shift showed higher AE than those who work in the other shifts. For some authors^(12,28) the work performed during the night shift or the constant turnover among shifts facilitates the presence of SB.

With respect to labor seniority, it is shown that no significant difference with SB and its dimensions was found. These results are in line with those reported by Arias⁽²⁴⁾ in Peru. Conversely, in Spain^(2,23) it was reported that SB is shown during the first years of working life (1 to 8), and a study performed in Peru⁽²²⁾ found that workers with less seniority showed higher levels of DP.

The nursing personnel hired as fixed substitute showed higher scores in SB and higher AE than personnel hired as temporary worker or core staff; on the other hand, core staff showed higher FRP. The results are consistent with the ones found in Spain⁽²³⁾ and Colombia⁽²⁶⁾ where the results showed that personnel hired as temporary workers showed higher AE and in Peru⁽²²⁾ where temporary personnel showed higher FRP than those with permanent contract.

With respect to workload, the results reported a significant difference since the nursing personnel who showed higher score in the SB and higher score in AE and DP are those who considered their workload high or moderate. The SB, AE, DP, and FRP did not show a significant difference according to the professional preparation of the nursing personnel. However, it should be stressed that personnel with a nursing bachelor's degree showed higher prevalences than the rest of the categories, especially in the medium level of SB. A study carried out in Colombia⁽²¹⁾ yielded very similar results; instead, in Spain⁽³⁾ the lack of professional education is related to more emotional fatigue and lower personal accomplishment.

It is noted that in the results the levels of SB and its dimensions did not show a significant difference according to the number of jobs that nursing personnel have; these results are similar to those reported by Miranda Lara in Mexico⁽²⁸⁾.

In general, the dimensions where more job characteristics with a significant difference were found were AE and FRP, while in DP only one labor variable with a significant difference was reported.

Some of the results shown are not compatible with the results of other research, maybe due to the characteristics of the participants, the variables that were used, the conditions at the time of the application, the environment and culture of the population used to make the studies, and the labor conditions of the health institutions in Mexico.

It is important to note that some factors of the labor organization where nurses work may intervene in the SB and its three dimensions levels. Considering the extensive number of variables that participate in the aforementioned syndrome and the implications that they have in the quality of the care to the health of the patients, and of that of the nursing personnel themselves, it is possible to influence in the variables, carrying out the proper and timely changes in the organization and structure of the nursing services.

One of the limitations of this study is that some relationships studied were not statistically significant, especially those associated to the sociological characteristics of

the study population. This situation may be due to the fact that the size of the sample was small ($n = 90$), although, the response rate obtained was high.

CONCLUSIONS

Ninety nurses (female and male) participated in this study of a public secondary care hospital. Most of the nurses showed a medium level of SB, low level of AE,; low level of DP, and low level of FRP. No correlation was found between SB and its dimensions with the social characteristics of the nursing personnel.

There was a relation between SB and the following job characteristics, namely, work shift, double work shifts per month, vacation periods per year, and workload.

No relation was found between SB and job characteristics, which are mentioned next: type of service, taste for service, working hours per week, two-week income, labor seniority, rest breaks during the shift, type of procurement, professional preparation, and number of jobs.

An association between AE and the following job characteristics was found: type of service, two-week income, double work shifts per month, vacation periods per year, type of procurement, and workload.

Additionally, a relation between DP and workload was found.

A relation between FRP and the following job characteristics was found: type of service, taste for service, work shift, two-week income, rest breaks during the shift, number of vacation periods per year, and type of procurement.

The evidence derived from this study suggested that the job characteristics are the ones who have more influence in the development of SB and its dimensions in the nursing personnel.

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