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Absenteeism of nurses and nursing technicians in the urgency and emergency unit

Absenteísmo de enfermeiros e técnicos de enfermagem na unidade de urgência e emergência

Absentismode enfermeras y técnicos de enfermería en la unidad de urgencia y emergência

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ABSTRACT

Objective: Associate the absenteeism of nurses and nursing technicians with the work environment in the urgency and emergency care unit.

Method: Cohort study, urgency and emergency care unit of a public hospital, 57 nursing technicians and 14 nurses, from October 2017 to October 2018. Application of an instrument with sociodemographic and labor data, reported absenteeism and validated Brazilian version of the Nursing Work Index Revised. Multiple logistic regression analysis, significant associations if $p<0.05$.

Results: Work environment showed an average score of 3.10 for nurses and nursing technicians. The more unfavorable the environment, the greater the likelihood employees will no show up for work. Factors that increase the probability of absenteeism: being single or divorced and working night shifts. Factors that reduce this probability: being a nurse and having another job.

Conclusion: A work environment unfavorable to professional practice increases the probability of absenteeism for nurses and nursing technicians.

Keywords: Working environment. Nursing, team. Absenteeism.

RESUMO

Objetivo: Associar o absenteísmo dos enfermeiros e técnicos de enfermagem com o ambiente de trabalho na unidade de urgência e emergência.

Método: Estudo de coorte, unidade de urgência e emergência de hospital público, 57 técnicos de enfermagem e 14 enfermeiros, de outubro de 2017 a outubro de 2018. Aplicação de instrumento com dados sociodemográficos e laborais, absenteísmo referido e versão brasileira validada do Nursing Work Index Revised. Análise por regressão logística múltipla, associações significativas se $p< 0,05$.

Resultados: Ambiente de trabalho apresentou média 3,10 para enfermeiros e técnicos de enfermagem. Quanto mais desfavorável o ambiente, maior a chance de não comparecimento ao trabalho. Fatores que aumentam a chance de absenteísmo: ser solteiro ou divorciado e trabalhar em período noturno. Fatores que diminuem a chance: ser enfermeiro e possuir outro emprego.

Conclusão: O ambiente de trabalho desfavorável à prática profissional aumenta a chance de absenteísmo dos enfermeiros e técnicos de enfermagem.

Palavras-chave: Ambiente de trabalho. Equipe de enfermagem. Absenteísmo.

RESUMEN

Objetivo: Asociar el absentismo de enfermeros y técnicos de enfermería con el entorno laboral en la unidad de urgencia y emergencia.

Método: estudio de cohorte, unidad de urgencia y emergencia de un hospital público, 57 técnicos de enfermería y 14 enfermeras, de octubre de 2017 a octubre de 2018. Aplicación de un instrumento con datos sociodemográficos y laborales, absentismo reportado y versión brasileña validada del Índice de Trabajo de Enfermería Revisado. Análisis de regresión logística múltiple, asociaciones significativas si $p <0,05$.

Resultados: El ambiente de trabajo mostró un promedio de 3,10 para enfermeras y técnicos de enfermería. Cuanto más desfavorable sea el entorno, mayor será la posibilidad de no presentarse a trabajar. Factores que aumentan la probabilidad de absentismo: ser soltero o divorciado y trabajar en turnos de noche. Factores que reducen las posibilidades: ser enfermera y tener otro trabajo.

Conclusión: Un ambiente de trabajo desfavorable para la práctica profesional aumenta las posibilidades de absentismo de enfermeros y técnicos de enfermería.

Palabras clave: Ambiente de trabajo. Grupo de enfermería. Absentismo.

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INTRODUCTION

In health institutions, the nursing team, which includes assistants, technicians and nurses, plays a key role in the care process, as they connect and coordinate care with the multidisciplinary team. Nursing professionals must develop strategies to integrate the work processes, through actions of planning, organization, execution, and evaluation of the activities to be performed in the health care context. The relationships established between the team are sources of changes in the work environment, favoring the delivery of high quality care[1].

However, adversities in the health institution and in the relationships within the work environment and the way of coordinating the entire work process can directly impact workers' health, generating physical and mental illness[2].

In this regard, some studies reveal that the urgency and emergency care unit is one of the most stressful sectors in the hospital[3,4]. These strains are related to the intensity of the work performed by the nursing team, exposed to different workloads (physical, chemical, psychological, mechanical and physiological), which have a negative impact on workers' health, increasing the absenteeism rate[5].

Absenteeism occurs when an employee is not present at work during a normally scheduled work period[6]. Managing absenteeism is a difficult task for those involved, as it can be caused by numerous factors, becoming a serious organizational problem[3].

A study carried out in a public teaching hospital in the state of São Paulo related the work environment to the quality of life of nursing professionals and found that different factors in the work environment, such as limited resources, inadequate working conditions, lack of motivation and overcrowding of patients, influence the workers' quality of life in the physical, psychological and also social domains[7].

The justification for undertaking this study is that the absenteeism of nursing professionals interferes with the care work process, and the work environment is important to guarantee the satisfaction of these professionals, in order to contribute to the deepening of the theme, given its relevance to the work performed by the nursing team in an evidence-based decision-making process. Thus, the present study aims to answer the following question: Is the work environment related to the absenteeism of nurses and nursing technicians in the urgency and emergency care unit of a public hospital?

Therefore, the objective of the study was to associate the absenteeism of nurses and nursing technicians with the work environment in the urgency and emergency care unit.

It is hoped that this study will contribute to the understanding of the impact of the work environment on the absenteeism of nursing professionals.

METHOD

The construction and reporting of this study followed the guidelines of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE), which is suitable for observational studies[8].

This is a prospective cohort study, with a quantitative approach, developed in the urgency and emergency care unit of a large public tertiary teaching hospital in the inland of the state of São Paulo.

The sample consisted of nursing assistants and nursing technicians who agreed to participate in the study and met the following inclusion criteria: be a nursing assistant and/or nursing technician, who has been working for at least one year in the urgency and emergency care unit. Professionals who were on extended sick leave, maternity leave, and/or those who for some reason did not complete or withdrew from the study were excluded from the sample.

For sample estimation purposes, with the assumption of simple random sampling, outcome of sick leave in 12 months, 1:1 ratio between the levels of binary exposures, absence of confounders, involvement at all the stages of the study by the participants, all nursing professionals were included, according to the inclusion criteria, as follows: 57 nursing technicians and 14 nursing assistants.

For data collection, two instruments were made available to the participants: 1) Sociodemographic characterization and information on self-reported absenteeism, 2) Brazilian – Nursing Work Index – Revised (B-NWI-R).

The variables related to the work environment were as follows: nurse sector, university degree of the nurse, weekly working hours, administrative workweek, double or triple workload, work shift, work in units with patients lengths of stay longer than 5 days, promotion in the last 12 months, negative performance evaluation in the previous year, satisfaction with salary, absence from work (excused absence, unjustified absence), reason for absence, duration of absence in days.

The B-NWI-R instrument for nurses contains 57 items and for technicians, 15 items. It is a Likert-type measurement scale with a score ranging from 1 to 4 points, and the lower the score, the greater the presence of favorable attributes[9,10]. Values below 2.5 represent favorable environments for professional practice, and values above 2.5 points represent unfavorable environments[11]. Each score was calculated by the mean score obtained in the responses to the items.

The score of the subscales of the B-NWI-R instrument comprises: "Autonomy" (measures how much autonomy is favorable to the nurses' activities); "Control over the environment" (measures how much the control of the environment is favorable to the nurses' activities); "Doctors-nurses relationships" (measures how much the relationships between doctors and nurses are favorable to the activities of nurses) and "Organizational Support" (measures how much the organizational support is favorable to the activities of nurses).

Absenteeism was reported by the participants with the following outcomes: sick leave in 12 months; total number of leaves in 12 months; time elapsed until the first leave and total leave time.

Data collection was carried out from October 2017 to October 2018, periodically and systematically every quarter, during one year, totaling four applications for each participant.

The professionals were approached individually in their workplaces. Those who met the inclusion criteria were informed of the objectives of the study and received the data collection instruments.

The scores of the B-NWI-R subscales were measured by directly applying the instruments to the nurses and nursing technicians of the previously mentioned urgency and emergency care unit. The researcher waited for the participants to fill out the instruments.

Characterization data were analyzed by descriptive statistics. Cronbach's Alpha coefficient was used, as it is a statistical tool that assesses reliability through the internal consistency of a questionnaire.

Association between independent variables and the likelihood of absence was analyzed by fitting multiple logistic regression models at each observation point. For the occurrence of sick leave within 12 months, generalized linear models with Poisson's response were adjusted for the incidence rate ratios as a function of work environment variables. For the total number of leaves in 12 months, a model adjustment was made for asymmetric response as a function of work environment variables. The time elapsed until the first leave and the total time of leave were analyzed through the adjustment of the model with exponential or Gamma response, as a function of the independent variables of the work environment. Associations were considered statistically significant if $p< 0.05$. Analysis was performed with SPSS 21 software.

To carry out the study, the researchers requested the signing of the Free and Informed Consent Form from all participants, and the guidelines and regulatory standards for research with human beings described in Resolution 466/12 of the National Health Council were observed. The project was approved by the Research Ethics Committee (Protocol No.3,032,851).

At the end of the study, all material will be kept on file for five years, in accordance with the general data protection law, and then discarded.

RESULTS

Table 1 shows the profile of the participants regarding sociodemographic and work characteristics. The sample included 14 (19.7%) nurses and 57 (80.3%) nursing technicians from the unit addressed, of which 62 (87.3%) were women and nine (12.7%) men, with a predominant age group of 36 -40 years.

Most participants, 50 (70.4%), were of white ethnicity, 44 (62%) were married and 51 (71.8%) had children.

Regarding the unit where patients stay for more than five days, 50 (70.4%) employees of the nursing team in the referred sector work in these units. Daytime work period was predominant among the professionals approached, with 42 (59.2%) of them working the day shift. Only nine (12.7%) have another formal job.

The predominant working hours were 40 hours a week, reported by 35 (49.3%) of the participants, followed by the 30-hour shift performed by 29 (40.8%) of them.

Regarding the professional performance evaluation, seven (9.9%) study participants were negatively evaluated and two (2.8%) were promoted.

The application of the scale on the work environment – B-NWI-R was carried out over a period of one year with the same workers and showed that from the beginning of the application until the last application, there was an increase in the scores. Table 2 shows the scores over a one-year period.

The "Autonomy" subscale started with a mean score of 2.3;, six months later there was an increase of 12% of this mean score (2.65); nine months later, the increase occurred since the beginning was 20%, that is, the mean score was 2.85 and at the end (12 months after the first application) the increase was 32%, and so the mean score of this subscale was 3.12.

Analysis of the subscale "Control over the environment" started with a mean score of 2.75; six months later, there was an increase of 5%, that is, a mean score of 2.88; in the nine-month application, the increase since the beginning was 8%, with a mean of 2.97. Twelve (12) months after the application of the instrument, the increase was 14% (compared the score obtained in the first application), with a mean score of 3.14.

Table 1 – Profile of participants regarding sociodemographic and labor variables (n=71). Botucatu, São Paulo, Brazil, 2019

Variable	N	%
Professional Occupation		
Technician	57	80.3
Nurse	14	19.7
Gender		
Female	62	87.3
Male	9	12.7
Age		
20-25	2	2.8
26-30	11	15.5
31-35	13	18.3
36-40	21	29.6
41-45	8	11.3
46-50	9	12.7
51-55	5	7.0
>56	2	2.8
Ethnicity		
White	50	70.4
Black or brown	21	29.6
Marital status		
Married	44	62.0
Divorced or single	27	38.0
Number of children		
0	20	28.2
1	16	22.5
2	22	31.0
3	12	16.9
>4	1	1.4

Table 1 – Cont.

Variable	N	%
Working hours		
30h	29	40.8
36h	2	2.8
40h	35	49.3
Double	5	7.0
Work in a unit with patient lengths of stay longer than 5 days		
No	21	29.6
Yes	50	70.4
Was promoted		
No	69	97.2
Yes	2	2.8
Received a negative performance evaluation		
No	64	90.1
Yes	7	9.9
Shift of work		
Day	42	59.2
Night	29	40.8
Administrative worksheet (Monday through Friday – 8 hours per day)		
No	70	98.6
Yes	1	1.4
Has another job		
No	62	87.3
Yes	9	12.7
Length of time working in the institution		
1- 5 years	41	57.7
6-10 years	15	21.1
11-15 years	4	5.6

Table 1 – Cont.

Variable	N	%
16- 20 years	10	14.1
> 21 years	1	1.4
Satisfied with the salary		
No	53	74.6
Yes	18	25.4
Absence (0-6 months)		
No	51	71.8
Yes	20	28.2
Unjustified absence (0-6 months)		
No	70	98.6
Yes	1	1.4
Absence (6 – 9 months)		
No	50	70.4
Yes	21	29.6
Unjustified absence (6-9 months)		
No	70	98.6
Yes	1	1.4
Absence (9 -12 months)		
No	55	77.5
Yes	16	22.5
Unjustified absence (9-12 months)		
No	70	98.6
Yes	1	1.4

Source: Research data, 2018.

The subscale "Doctor-nurse relationship" started with a mean score of 2.35; six months later, there was an increase of 14% with a mean score of 2.67; nine months later, the increase occurred since the beginning was 20%, a mean score of 2.83 and at the end (12 months after the first application) the increase was 29%, that is, a mean score of 3.03.

Regarding the "Organizational Support" subscale, the initial mean score was 2.50; six months later, there was an

Table 2 – B-NWI-R subscale scores over a 12-month period (n=71). Botucatu, Sao Paulo, Brazil, 2019

Subscales B-NWI- R	Beginning		6 months		9 months		12 months	
	Mean score	Sd	Mean score	Sd	Mean score	Sd	Mean score	Sd
Autonomy	2.37	0.61	2.65	0.59	2.85	0.55	3.12	0.49
Control over the environment	2.75	0.57	2.88	0.54	2.97	0.50	3.14	0.45
Doctor-Nurse relationship	2.35	0.58	2.67	0.66	2.83	0.55	3.03	0.48
Organizational support	2.50	0.53	2.75	0.52	2.87	0.50	3.12	0.45

Source: Research data, 2018.

increase of 10% (mean score of 2.75); nine months later, the increase since the beginning was 15%, that is, a mean score of 2.87 and at the end (12 months after the first application) the increase was 25%, corresponding to a mean score of 3.12.

Analysis of the probability of absenteeism in the period of 12 months, associated with the variables, components of the subscales: autonomy; control over the environment; doctor-nurse relationship; organizational support and

Table 3 – Probability of Absenteeism of the participants after six months from starting the application of the instrument. Botucatu, São Paulo, Brazil, 2019

Variable	OR	CI 95%		p
Autonomy in the beginning	8.30	0.56	124.04	0.13
Control over the environment in the beginning	0.12	0.00	6.18	0.29
Doctor-nurse relationship in the beginning	0.75	0.08	7.34	0.80
Organizational support in the beginning	2.85	0.00	2323.71	0.76
Being a Nurse	0.22	0.02	2.07	0.19
Male gender	0.46	0.05	4.23	0.49
Black or Brown ethnicity	3.02	0.,49	18.82	0.24
Marital Status – single or divorced	9.03	1.42	57.59	0.02
Work in units with patient lengths of stay longer than 5 days	0.29	0.04	2.16	0.23
Received a promotion	0.44	0.01	30.62	0.70
Received a negative performance evaluation	4.15	0.41	41.89	0.23
Work in the night shift	7.48	1.40	40.13	0.02
Administrative workweek (Monday through Friday – 8 hours per day)	0.00	0.00		1.00
Has another job	0.12	0.02	0.93	0.04
Is satisfied with the salary	0.22	0.03	1.78	0.16

Source: Research data, 2018.

sociodemographic and labor, was carried out according to the tables detailed below.

Table 3 showed the analysis from the beginning of the cohort study to six months and showed that being single or divorced increased the probability of nursing professionals be absent by 9.03 times (p=0.02). The probability of absenteeism in nursing professionals who work in the night shift was 7.48 times (p=0.02) and the probability of nursing professionals who work in another job being absent is 8.3 times lower (p=0 .04) than those who had only one job. The other variables did not show statistical significance for this period.

Analysis of the 6-9 month period allowed to associate the B-NWI-R subscales and sociodemographic labor factors, and it was found that being a nurse reduces the chance of absenteeism by 10 times (p=0.036) and nursing professionals who work in another job are 20 times (p=0.015) less likely to be absent than those with just one job. However, being single or divorced increases the likelihood of absenteeism at work by 5.27 times (p=0.028), as shown in Table 4.

Table 5 shows the analysis of absenteeism with the B-NWI-R and the sociodemographic and labor variables and did not find statistical significance in the period from nine to twelve months.

Regarding the reliability of the applied scales, the average Cronbach's alpha of the B-NWI-R for nurses was 0.77 and for nursing technician it was 0.93.

Table 4 – Probability of Absenteeism of participants between six and nine months. Botucatu, São Paulo, Brazil, 2019

Variable	OR	CI95%		P
Autonomy after 6 months	1.142	.063	20.615	0.928
Control over the environment after 6 months	1.701	.029	100.622	0.799
Doctor-nurse relationship after 6 months	0.999	.132	7.578	0.999
Organizational support after 6 months	0.671	.000	1062.770	0.916
Being a Nurse	0.100	0.012	0.857	0.036
Male gender	0.527	0.037	7.442	0.635
Black or Brown ethnicity	0.648	0.131	3.200	0.595
Marital Status – single or divorced	5.227	1.201	22.754	0.028
Work in units with patient lengths of stay longer than 5 days	0.233	0.047	1.146	0.073
Received a promotion	1.940	0.012	317.707	0.799
Received a negative performance evaluation	3.751	0.468	30.057	0.213
Work in the night shift	0.708	0.146	3.437	0.668
Administrative workweek (Monday through Friday – 8 hours per day)	0.000	0.000		1.000
Has another job	0.050	0.004	0.562	0.015
Is satisfied with the salary	1.229	0.255	5.920	0.797

Fonte: Research data, 2018.

Table 5 – Probability of Absenteeism of participants between nine and twelve months. Botucatu, São Paulo, Brazil, 2019

Variable	OR	CI95%		P
Autonomy after 9 months	0.096	0.002	4.243	0.225
Control over the environment after 9 months	0.203	0.003	15.513	0.471
Doctor-nurse relationship after 9 months	0.255	0.018	3.604	0.312
Organizational support after 9 months	196.217	0.059	657929.998	0.202
Being a Nurse	0.263	0.035	1.956	0.192
Male gender	1.712	0.153	19.113	0.662
Black or Brown ethnicity	0.179	0.019	1.733	0.138
Marital Status – single or divorced	2.780	.592	13.054	0.195
Work in units with patient lengths of stay longer than 5 days	0.494	0.081	2.996	0.443
Received a promotion	0.000	0.000		0.999
Received a negative performance evaluation	2.219	0.216	22.796	0.502
Work in the night shift	1.225	.224	6.710	0.815
Administrative workweek (Monday through Friday – 8 hours per day)	0.000	0.000		1.000
Has another job	0.294	0.034	2.508	0.263
Is satisfied with the salary	2.614	0.566	12.083	0.219

Source: Research data, 2018.

DISCUSSION

There was statistical significance in the analysis of the following variables: being single or divorced and working in the night shift increase the likelihood of absenteeism; working at another job and being a nurse decrease the likelihood of absenteeism.

The job profile of nursing professionals can interfere with their physical and emotional health, and health problems depend on the practice environment to which the professional is exposed.

Nursing work, considered in its technical and social division, generally shows professional nurses in the management of care, while the technical team is in charge of direct care to patients, a fact that justifies the higher incidence of labor exhaustion in nursing assistants and technicians[2]. Thus, the "nurse" occupation tends to present a lower rate of absence from work, a fact that corroborates the results obtained in this study.

Analysis of the work environment revealed that the B-NWI-R had an overall score of 3.10. Since the scale score ranges from 1 to 4 and that the lower its value, the more favorable the work environment is for nursing practice, a critical scenario was detected, a situation that was also reported in another recent study[12].

The use of the single cohort method, carried out over one year, made it possible to monitor the analysis of the work environment through the B-NWI-R scale in the work

context of both clinical nurses and nursing technicians. This helps managers to improve this environment to promote strategies aimed at reducing absenteeism rates.

In this context, absenteeism in a public health institution results in overload for other workers, demanding greater efficiency in the execution of tasks, which greatly interferes with the provision of high quality care to the clients[13].

Regarding the reliability of the scale, Cronbach's alpha coefficient was satisfactory, with an average of 0.77 for nurses and 0.93 for technicians.

The subscale "Doctor-nurse relationship" received the lowest score in the initial application of the scale, but it evolved with a significant increase at the end of the period. A recent scoping review study revealed that in most articles on this issue, the perception of the practice environment is predominantly unfavorable in all domains of the instrument[14].

A study reported that nurses had lower scores on this subscale, obtaining a more favorable perception of these characteristics of the practice environment. Thus, the study affirms that there is a closer relationship between nurses and the medical team, but the distance between doctors and the mid-level nursing team in the hospital environment is still perceptible[15].

A descriptive study carried out in a medium-sized private hospital showed that the nursing team perceived the environment as favorable to professional practice, with a positive assessment of the quality of care offered in its units[16].

The importance of a collaborative relationship between the multidisciplinary team, in order to establish more effective communication and patient-focused care should be emphasized. The teaching hospital is based on learning as a driving force that contributes to an organizational atmosphere conducive to interdisciplinarity[17].

"Control over the environment" is the item to be most explored by the unit manager, as it affirms the professional's freedom to make decisions and solve care problems. This subscale was also negatively evaluated in other studies conducted in critical units of public teaching hospitals, highlighting the need for nurses/nursing technicians' control over the environment to be improved in the hospital context[4,14,16,18,19].

A study carried out in China revealed that the work environment is strongly related to professional satisfaction. Hospitals that guarantee organizational support provide their employees with greater job satisfaction, contributing to improved safety and quality of care[20].

Therefore, it is essential that the leader makes a careful assessment of all the areas addressed so that action plans can be built.

This study found that professionals who have more than one job are not likely to be absent from work, a fact that contrasts with the results of a study that exposed the work overload experienced by these workers, who have low-pay and hence are forced to have more than one job with extensive workloads[2].

There was a higher percentage of absentees among workers in the night shift. Thus, the fact that nursing technicians and nurses work at night shifts increases the probability of absenteeism in the urgency and emergency care unit addressed.

In this context, nursing care requires full attention, due to the direct contact with the patients. A recent study showed that professionals who perform night-shift work faced health problems due to circadian de- synchronization, with a possible impact on their quality of life[21].

Thus, night-shift work provides an exhausting and tiring routine, especially in critical environments, maximizes the development of depression and other mental diseases, with a negative impact on job performance, and consequent increase in absenteeism rates[22].

One limitation of the present study was the non-participation of all nursing technicians and nursing assistants of the referred unit who performed their duties during the period investigated, and also the fact that it did not include urgency and emergency care units of other public hospitals, and so the sample size was not appropriate for a larger number of comparisons.

CONCLUSION

From the point of view of the nursing team, the results obtained revealed the association between the work environment of an urgency and emergency care unit of a public hospital and the absenteeism in this environment.

The study showed that the work environment, according to the B-NWI-R, reached a mean score of 3.10, which is unfavorable to professional practice. There was a significant progression in the mean scores over the year, with the "autonomy" subscale showing the greatest increase (32%), followed by the "doctor-nurse relationship" (29%), "organizational support" (25%) and "control over the environment" (14%).

Nursing technicians had the highest absenteeism rate compared to nursing assistants. This study found that "being single or divorced" and "working at night" are factors that increase the probability of absenteeism, and being a nurse" and "having another job" are factors that decrease this probability.

The results obtained in this study aim to support the management of health institutions in their efforts to invest in strategies for improving infrastructure, dimensioning human

resources and modifying the organizational culture, creating a more favorable environment for professional practice, in order to reduce the absence of nursing workers, and consequently provide better care to the clients.

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