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ORIGINAL ARTICLE

PAIN AND DISEASE AMONG THE NURSING TEAM DOR E ADOECIMENTO ENTRE EQUIPE DE ENFERMAGEM DOLOR Y ENFERMEDAD ENTRE EL EQUIPO DE ENFERMERÍA

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ABSTRACT

Objective: to verify the prevalence of pain and illness related to work activity and referred by the nursing team. Method: this is a quantitative, analytical, cross-sectional study conducted with 202 nursing technicians and nursing assistants. Data was collected using a self-administered semi-structured questionnaire. Bivariate data analysis was performed. Statistical significance was assessed using the 95% CI and the chi-square test. Results: a prevalence of 69.3% of reports of pain and 34.2% of illness related to work activity was identified, with emphasis on chronic low back pain and varicose veins; there was a 19.3% prevalence of anxiety among the interviewees and they were 20 times more likely to report pain. Conclusion: it is concluded that pain and illness are very prevalent in Nursing professionals and seem to be inherent to the characteristics of the activity performed and the work process, and the discussion of these problems is of great relevance for Nursing and healthcare service managers. Descriptors: Nursing, Team; Ocupational Health; Morbidity; Anxiety; Prevalence; Low Back Pain.

RESUMO

Objetivo: verificar a prevalência de dor e adoecimento relacionados à atividade laboral e referidos pela equipe de enfermagem. Método: trata-se de um estudo quantitativo, analítico, de corte transversal realizado com 202 técnicos de enfermagem e enfermeiros assistenciais. Coletaram-se os dados por meio de questionário semiestruturado auto aplicado. Realizou-se a análise bivariada dos dados. Avaliou-se a significância estatística por meio do IC 95% e do teste Qui-quadrado. Resultados: identificou-se prevalência de 69,3% de relato de dor e de 34,2% de adoecimento relacionado à atividade laboral, destacando-se a lombalgia crônica e as varizes; houve prevalência de 19,3% de ansiedade entre os entrevistados e estes apresentaram 20 vezes mais chances de relatar dores. Conclusão: conclui-se que dor e adoecimento são muito prevalentes nos profissionais de enfermagem e parecem ser inerentes às características da atividade exercida e do processo de trabalho, e a discussão desses problemas é de grande relevância para a Enfermagem e para os gestores de serviços de saúde. Descritores: Equipe de Enfermagem; Saúde do Trabalhador; Morbidade; Ansiedade; Prevalência; Dor Lombar.

RESUMEN

Objetivo: verificar la prevalencia de dolor y enfermedad relacionados con la actividad laboral y referidos por el equipo de enfermería. Método: se trata de un estudio cuantitativo, analítico, transversal realizado con 202 técnicos de enfermería y auxiliares de enfermería. Los datos fueron recolectados usando un cuestionario semiestructurado autoadministrado. Se realizó un análisis de datos bivariados. La significación estadística se evaluó utilizando el IC del 95% y la prueba de chi-cuadrado. Resultados: se identificó una prevalencia del 69,3% de los informes de dolor y del 34,2% de enfermedades relacionadas con la actividad laboral, con énfasis en el dolor lumbar crónico y las venas varicosas; hubo una prevalencia de ansiedad del 19,3% entre los entrevistados y tenían 20 veces más probabilidades de informar el dolor. Conclusión: se concluye que el dolor y la enfermedad son muy frecuentes en los profesionales de enfermería y parecen ser inherentes a las características de la actividad realizada y el proceso de trabajo, y la discusión de estos problemas es de gran relevancia para la enfermería y los gerentes de servicios de salud. Descriptores: Grupo de Enfermeira; Salud Laboral; Morbilidad; Ansiedad; Prevalencia; Dor de la Región Lumbar.

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INTRODUCTION

It is known that Brazil has a contingent of 3.5 million health professionals and, of these, more than half are composed of nursing professionals.¹ It is reported that the Nursing team works at three levels of health care, however, the hospital remains the largest employer οf these professionals², place where they provide assistance 24 hours a day.³

The nursing team's work process in the hospital environment is marked by exposure to occupational, ergonomic, biological, chemical and physical risks,² involving exhausting and stressful activities, which require constant manual and psychosocial skills, with constant collection of responsibilities⁴ and coping with situations of high variability⁵. It is observed that this complex work can cause illness and compromise the quality of life of workers. ^{2,6}

The complexity of the activities, which involve continuous contact with the client and the family, culminates in high wear and burden, culminating in Nursing professionals with the highest rates of accidents and illness related to work among the other health categories.⁷

It is revealed that the health problems most commonly reported by nursing professionals are varicose veins, low back pain and chronic muscle pain, closely related to physical effort and the accelerated work rhythm, which produce fatigue, in addition to stress and depression.⁸

It is added that the pain and discomfort caused by work activity can cause a decrease in the ability to work, affecting the interpersonal relationship and compromising the quality of care provided.⁵

Thus, it is necessary to deepen the discussions on the health of Nursing workers to support improvements in the working conditions of these professionals.

OBJECTIVE

• To verify the prevalence of pain and illness related to work activity and referred by the nursing team.

METHOD

This is a quantitative, analytical, crosssectional study. The study population is constituted by nursing technicians and nursing assistants from the three shifts in the sectors of medical clinic, surgical clinic, orthopedic clinic, medication room, observation room, yellow room and ICU of a University Hospital (UH).

It was considered as an inclusion criterion to work in Nursing for at least six months and as an exclusion criterion not to be at the UH during the period of data collection due to vacation or leave.

Data was collected from November 2017 to June 2018.

Data was collected through a self-administered semi-structured questionnaire presenting questions related to the sociodemographic profile, work characteristics, presence and characterization of anxiety symptoms, pain reports and involvement in morbidities related to work activity.

It is detailed that the sociodemographic variables used comprised: sex (dichotomized, male and female); age (in full years, continuous); monthly income (in reais, continuous) and physical exercise (dichotomized, yes or no).

In relation to work, the variables length of experience in Nursing (in years, continuous), professional category (dichotomized, nurse and Nursing technician), have more than one job (dichotomized, yes or no), workload weekly work (dichotomized), up to 36 hours and more than 36 hours.

The presence and characterization of anxiety were assessed using the Beck Anxiety Inventory (BAI). In relation to BAI, scores from zero to seven points on the anxiety level scale were considered to be minimum; take eight to 15; moderate from 16 to 25 and severe from 26 to 63 points. It is explained that, for this study, this variable was dichotomized: up to seven points, without signs of anxiety and above eight points with signs of anxiety.

Reported pain and discomfort during the work routine was determined as a dichotomized variable (yes or no) and, among the professionals who reported pain, some reported more than one location; the report of acquisition of some morbidity related to work activity had a dichotomized variable (yes or no) and there were also cases of more than one reported morbidity.

Qualitative variables were analyzed descriptively in their absolute and relative frequencies.

In order to test the normality of the variables, the Kolmogorov-Sminoff test was performed, presenting normal data (monthly income) as means and standard deviation and non-normal data (age and time working in Nursing) as median and interquartile range (IQ 25% -75%).

Mann-Whitney U nonparametric test was used to compare the medians of age and length of experience in nursing for groups with and without pain reports and with and without acquisition of morbidity related to work activity.

A bivariate analysis was carried out in order to ascertain the association between the categorical independent variables gender, exercise practice, professional category, having another job, weekly workload and presence of anxiety symptoms with the dependent reports of pain and reports of morbidity (separately). It is added that the

measure of association used was the prevalence ratio (PR). Statistical significance was assessed using the 95% CI and the chi-square test.

The logistic regression model was used as a way of verifying factors associated with an increased chance of reporting pain during the work routine. For the presentation of the adjusted odds ratio (OR), variables with a p-value> 0.20 in the bivariate analysis (professional category, other link and signs of anxiety) were considered, and the model also included the variable workload.

Data was tabulated using the Epi info 7.02 software, treating them in the SPSS statistical program. The project was approved by the Ethics Committee of UNIVASF under CAAE: 69694017.6.0000.5196. The Free and Informed Consent Term (FICT) was signed before the questionnaires were applied by all participants.

RESULTS

It is revealed that 202 professionals responded to the questionnaire: 147 nursing technicians, with

a median age of 36 years (IQ 30-44), and 55 nurses, with a median age of 32 years (IQ 29.75-37), and most professionals were female (84.2%), with a median of nine years working in Nursing (IQ 5-15).

The average salary of Nursing technicians was R\$ 4057.51 (SD \pm 2093 CI95% 3616.62-4498.91) and nurses had an average of R \$ 7542.18 (SD \pm 3028.48 CI95% 6621, 43-8462.92).

It is detailed that, of the interviewees, 69.3% (n = 140) declared to feel some pain and 34.2% (69) stated to have acquired some illness related to their work activity; the most reported pain sites were the low back and lower limbs and 15 morbidities were reported, with chronic low back pain and varicose veins being the most prevalent (Table 1).

Table 1. Location of pain and morbidities related to self-reported work activity by nursing professionals. Petrolina (PE), BraZil, 2020.

Petrolina (PE), Brazil, 2020.					
Variables (n=140)	n	%			
Pain location (N=140)		-			
Lumbar spine	73	52.14			
Muscle	9	6.42			
Lower limbs	45	32.14			
Gastrointestinal	2	1.42			
Cervical spine	8	5.71			
Head	17	12.14			
Upper limbs	3	2.14			
Referred morbidity (N=69)					
Depression	1	1.44			
Diabetes	2	2.89			
Chronic lower limb pain	5	7.24			
Chronic upper limb pain	4	5.79			
Migraine	1	1.44			
Gastritis	3	4.34			
Herniated disc	4	5.79			
Umbilical hernia	1	1.44			
Arterial hypertension	5	7.24			
Airway infection	5	7.24			
Urinary infection	2	2.89			
Skin infections	4	5.79			
Insomnia	2	2.89			
Chronic lower back pain	22	31.88			
Varicose veins	12	17.39			

It was observed that the median age of professionals who report pain (33 years) is lower than among those who do not report this outcome and this difference is statistically significant (p =

0.032), however, both age and time of performance in Nursing are higher among professionals who report illness related to their work activity (Table 2).

Table 2. Relationship of median age and length of experience in nursing to self-reported pain and morbidities related to work activity. Petrolina (PE), Brazil, 2020.

Yes	No	р
33 (IQ 30-40)	36 (IQ 31-45)	0.032
9 (IQ 5-15)	10 (IQ 6-18)	0.280
36,5 (IQ 30-42.75)	33 (IQ 30-40)	0.076
10 (IQ 6-17.25)	9 (IQ 5-12)	0.143
	33 (IQ 30-40) 9 (IQ 5-15) 36,5 (IQ 30-42.75)	33 (IQ 30-40) 9 (IQ 5-15) 36,5 (IQ 30-42.75) 36,5 (IQ 30-42.75) 36,5 (IQ 30-40)

P - Mann-Whitney IQ test - interquartile range

It is noteworthy that, of the interviewees, 51.3% regularly exercise, 68.81% have only one job and 71.78% have a weekly workload of up to 36 hours.

It is pointed out that the variables related to exercise, having another employment relationship, weekly workload greater than 36 hours were not statistically significant regarding the report of pain or illness related to work activity.

It is believed that nurses are more likely to report pain (PR 1,225 95% CI 1,026-) in relation to nursing technicians and, of the 202 respondents, 39 (19.30%) had symptoms of mild to severe anxiety. In the presentation of signs of anxiety, the probability of reporting pain (1.55 95% CI 1.36-1.77) and of being affected by morbidities related to work activity (2.189 CI 95% 1.542-3.109) (Table

Table 3. Relationship between characteristics of nursing professionals and self-reported pain and morbidities related to

work activity, Petrolina (PE), Brazil, 2020.

work activity. Petro	otina (PE	<i></i>						
	Yes	Paii No	n P	PR (95%CI)	Yes	No	Sickness P	PR (CI)
Sex								
Female	117	53	0.893	0.95 (0.75-1.21)	62	107	0.227	1.57 (0.798-3.09)
Male	23	9		,	7	23		,
Exercise practice								
Yes	73	31	0.898	0.97 (0.81-1.17)	33	62	1	1.004 (0.68-1.47)
No	67	31		,	36	68		,
Professional catego	ory							
Nurse	44	11	0.065	1.225 (1.026-1.462)	49	96	0.795	1.096 (0.723-1.661)
Technician	96	51		(,	20	34		(22 2 2 2 2)
Has another job								
Yes	38	25	0.089	0.82 (0.65-1.02)	27	34	0.084	1.454 (0.996-2.123)
No	102	37		(,	42	96		(3,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4
Weekly workload								
>36	29	18	0.266	0.86 (0.67- 1.10)	14	31	0.726	0.878 (0.539-1.430)
Up to 36h	104	41		,	51	93		,
Anxiety symptoms								
Yes	38	1	<0.005	1.55 (1.36-1.77)	23	14	<0.005	2.189 (1.542 3.109)
No	102	61			46	116		

p-chi-square PR - Prevalence ratio 95%CI Confidence interval

After the multivariate analysis, the statistically significant anxiety symptoms variable remained, and professionals with these symptoms are 20 times more likely to report pain. It should be added that the other variables presented in the model, such as professional category, having another job and weekly workload, did not show a significant relationship with an increase or decrease in the chances of reporting pain (Table 4).

Table 4. Logistic regression for the factors that influence the pain reference by nursing professionals. Petrolina (PE), Brazil, 2020.

Positive report of pain	_{Adjusted} OR	Р	95%CI
Professional category	-	<u>-</u>	-
Nurse	1.639	0.222	0.742-3.620
Nursing technician	1		
Has another job			
Yes	1		
No	0.622	0.193	0.304-1.272
Weekly workload			
Up to 36h	1.376	0.410	0.643-2.943
More than 36h	1		
Symptoms of anxiety			
Yes	20.669	0.003	2.720-157.037
No	1		

DISCUSSION

202 nursing technicians and nurses were interviewed, and those had a median age greater than these, having, on average, nine years of experience in nursing. Remember that the majority of respondents were female.

Similar results were found in other large Brazilian hospitals. The predominance of female professionals is closely linked to the historical construction of the profession, and the average ages presented in the studies contemplate the most productive period of adults who are included in the labor market. 1,9

Respondents showed an average salary higher than the national average,¹ and it is likely that this finding is related to the smaller number of professionals with more than one link, a situation that is the opposite of that of most nursing professionals in Brazil.

Due to the double journeys faced to improve income, the exposure time of professionals to the risks existing in the hospital is increased,⁴ and better wages allow professionals to work fewer hours during the week, and theoretically can take better care of their health.

Even so, it was reported by 69.3% of the interviewees, to feel some pain or discomfort mainly in the lumbar region and lower limbs. In a study conducted in a hospital in southern Brazil, a prevalence of 96.6% of pain in at least one of the body parts in the last 12 months was identified in nursing assistants. ¹⁰

It is understood that the prevalence found in the two studies are very high, but have differences that may be related to the salary discrepancy between the two hospitals.

It is pointed out that, even with differences in salary, workload and even country, pains are present and are inherent to the nursing work process. 11-3

Among the professionals interviewed, 34.2% reported having acquired some work-related illness, with varicose veins and chronic low back pain being the most prevalent.

It is inferred that work characteristics mentioned by professionals and recorded in the literature, such as staying in the same position for long periods, performing repetitive activities, physical effort and energy expenditure when assuming inadequate body positions and weight lifting when mobilizing patients beyond their functions, are the causes for such afflictions.^{2,5,11-2}

More pain was reported by professionals with lower medians of age, however, professionals with higher medians of age reported more illness. It is believed that the more time exercising Nursing activities, added to the wear and tear caused by age, the greater the prevalence of illness.

A study carried out in the Triangulo Mineiro on the functional capacity of nursing professionals indicated that the variable age as a contributor in the process of compromising the worker's health, and from 40 years of age, the functional decline becomes more intense, although older people young people are also exposed to vulnerabilities that favor illness and, consequently, to pain reports.⁹

It is observed that nurses were more likely to report pain than nursing technicians, however, a study carried out with the objective of analyzing musculoskeletal disorders in the nursing team did not observe significant differences in pain in relation to the professional profile.¹³

It is important to note that both technicians and nurses are exposed to physical and biomechanical risks due to direct patient care and, in some services, technicians are perhaps more exposed to this risk than nurses, however, nurses are more exposed to psychosocial and cognitive demand factors, as they act directly in the administrative functions of the sector, being responsible both for carrying out their work and for supervising the work of other team members. 2,13

It appears that there was a prevalence of 19.30% of anxiety symptoms and few professionals reported work-related mental illness, a report that may be below the reality and, of the 54 professionals of the Nursing team of a palliative care unit, about one third had symptoms of anxiety and depression. Such differences can be related to the differences between the methods of apprehending the condition by different studies, coming up against the difficulty of people in admitting mental illnesses.

There was a significant increase in the likelihood of reporting pain and involvement with morbidities related to work activity among professionals who showed signs of mild to severe anxiety.

It is warned that nursing professionals who have minor psychological disorders such as anxiety are more likely to become ill and to reduce their ability to work¹⁵ and nursing professionals with good general health tend to have better mental health.¹⁶

The limitations of this study include the cross-sectional design, the self-report nature of the information collected and data collection only among professionals from a single university hospital, with salary and workload characteristics different from national averages, which makes generalizations impossible. It is noticed, however, when discussing the data with the literature, including international, that the results demonstrate that pain and illness are inherent to the activities performed by professionals.

It is believed that the work has its relevance when surveying the morbidities most reported by Nursing professionals and raising the prevalence of pain referred by them, being of great interest to Nursing and health service managers.

CONTRIBUTIONS

It is informed that all authors contributed equally in the design of the research project, collection, analysis and discussion of data, as well as in the writing and critical review of the content with intellectual contribution, and in the approval of the final version of the study.

CONFLICT OF INTERESTS

Nothing to declare.

CONCLUSION

A prevalence of 69.3% of referred pain was identified, with the most frequent sites being the lumbar region and the lower limbs. There was a prevalence of 34.2% of involvement due to work-related morbidities, with emphasis on chronic low back pain and varicose veins. It is revealed that both age and time working in Nursing are higher among professionals who report illness related to their work activity, and there was a prevalence of 19.3% of anxiety among respondents and they were 20 times more likely to report pain.

It is noticed that pain and illness are very prevalent in nursing professionals and seem to be inherent to the characteristics of the activity performed and the work process. It becomes, therefore, for the improvement of the health conditions of these professionals, essential to rethink the salary conditions and the reduction of the workload, allowing the recovery of these professionals between one working day and another and the greater distance from exposures to risk factors.

It is concluded that Nursing is essential for the health care of the population, however, to take good care, professionals must be healthy and satisfied with their work.

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