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## RELATIONSHIP BETWEEN WORK ABILITY IN NURSING AND MINOR PSYCHOLOGICAL DISORDERS

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**ABSTRACT:** This study aimed to evaluate the association between minor psychological disorders and the reduction of work capacity of nursing professionals. Epidemiological study (cross-sectional) involving 498 (84.1%) nursing professionals at a university hospital in the state of Rio Grande do Sul, Brazil. We used the Brazilian versions of the Work Ability Index and the Self-Reporting Questionnaire-20, with descriptive and multivariate analysis. The prevalence of minor psychological disorders and the reduction of work ability corresponded to 33.7% and 43.3%, respectively. The analyses adjusted due to confounding factors showed that nursing professionals with suspected minor psychological disorders were twice as likely to have their work ability reduced when compared to those without suspected minor psychological disorders. It is concluded that there is a positive association between minor psychological disorders and reduced work ability among the investigated professionals. Measures are needed to minimize the psychological demands and empower the work ability.

**DESCRIPTORS:** Nursing. Work capacity evaluation. Occupational health. Occupational diseases. Mental disorders.

## RELAÇÃO ENTRE CAPACIDADE PARA O TRABALHO NA ENFERMAGEM E DISTÚRBIOS PSÍQUICOS MENORES

**RESUMO:** Este estudo objetivou avaliar a associação entre distúrbios psíquicos menores e a redução da capacidade de trabalho em trabalhadores de enfermagem. Estudo epidemiológico transversal, envolvendo 498 (84,1%) trabalhadores de enfermagem de um hospital universitário do Estado do Rio Grande do Sul, Brasil. Utilizaram-se versões brasileiras do Índice de Capacidade para o Trabalho e do *Self-Reporting Questionnaire-20*, com análise descritiva e multivariada. As prevalências de distúrbios psíquicos menores e da redução da capacidade para o trabalho foram de 33,7% e 43,3%, respectivamente. As análises ajustadas pelos fatores de confundimento evidenciaram que os trabalhadores de enfermagem com suspeição para distúrbios psíquicos menores apresentaram duas vezes mais chances de ter a capacidade para o trabalho reduzida quando comparados aos sem suspeição. Conclui-se que há associação positiva entre distúrbios psíquicos menores e redução da capacidade para o trabalho nos trabalhadores pesquisados. São necessárias medidas que minimizem as exigências mentais e que potencializem a capacidade para o trabalho.

**DESCRIPTORES:** Enfermagem. Avaliação da capacidade de trabalho. Saúde do trabalhador. Doenças profissionais. Transtornos mentais.

## RELACIÓN ENTRE LA CAPACIDAD DE TRABAJO EN ENFERMERÍA Y TRASTORNOS PSÍQUICOS MENORES

**RESUMEN:** Estudio tuvo como objetivo evaluar la asociación entre trastornos psíquicos menores y la reducción de la capacidad de trabajo en los profesionales de enfermería. Estudio epidemiológico transversal con 498 (84,1%) profesionales de un hospital universitario en el Estado de Rio Grande do Sul, Brasil. Fueron utilizadas versiones brasileñas del Índice de Capacidad de Trabajo y del *Self-Reporting Questionnaire-20*, con el análisis descriptivo y multivariado. La prevalencia de los trastornos psíquicos menores y la reducción de la capacidad de trabajo fueron 33,7 % y 43,3 %, respectivamente. Los análisis mostraron que los profesionales con sospecha de trastornos psíquicos menores tuvieron dos veces más posibilidades de tener la capacidad de trabajo reducida comparados con los de sin sospecha de trastornos psíquicos menores. Se concluye que existe una asociación positiva entre trastornos psíquicos menores y reducción de la capacidad de trabajo en los profesionales investigados. Se necesitan medidas para disminuir las exigencias mentales y que potencialicen la capacidad para el trabajo.

**DESCRIPTORES:** Enfermería. Evaluación de capacidad de trabajo. Salud laboral. Enfermedades profesionales. Trastornos mentales.

## INTRODUCTION

Work ability can be described as the physical and mental capacity of the professional to perform tasks, taking into account work requirements.<sup>1</sup> A Finnish study showed that the work ability is not satisfactory for the entire life. Some factors, such as working conditions, occupational environment and lifestyle can influence it.<sup>1</sup>

In the hospital context, workers are exposed to different workloads<sup>2</sup> and occupational risk situations that can have physical and psychic<sup>3</sup> repercussions, represented, for example, by reduction of work capacity<sup>1</sup> and Minor Psychiatric Disorders (MPDs),<sup>4</sup> respectively.

The MPDs indicate clinical cases of individuals with symptoms of anxiety, depression or somatization, which do not fulfill the criteria of mental illness according to the International Classification of Diseases (ICD-10).<sup>5</sup>

In nursing, the MPD reports gain increasing proportions as causes of illnesses<sup>4</sup> and can influence work ability. Surveys on work ability in nursing professionals have been the subject of national<sup>6-8</sup> and international studies,<sup>9</sup> which shows the interest of researchers in identifying situations that may affect the health of these people in the labor context and may define action strategies in the quest for health promotion.

A research gap still remains, however, regarding the association between MPDs and reduction of work capacity. Advanced searches were performed in the Latin American and Caribbean Health Sciences (LILACS), in the virtual library Scientific Electronic Library Online (SCIELO) and in the Medical Literature Analysis and Retrieval System Online (MEDLINE) databases, during February 2014. The descriptor "work ability assessment" was used in association with "mental disorders" to identify minor psychiatric disorders, because there were no studies that evaluated these two issues simultaneously. It is highlighted that, in the State of Rio Grande do Sul, mental disorders are the second leading cause of notification of occupational disease.<sup>10</sup>

Based on these considerations, the guiding question of this study was: is there an association between MPD and work ability in nursing? Our hypothesis is that nursing workers with suspected MPD present a higher risk for the

reduction of work capacity. In order to confirm or refute this hypothesis, the present study aims to determine the association between MPD and reduction of work capacity in nursing workers at a university hospital in the State of Rio Grande do Sul.

## METHOD

Cross-sectional study, which used the research database entitled "Functional capacity of nursing workers with WMSD/RSI (Work-Related Musculoskeletal Disorders/Repetitive Strain Injuries)", approved by the Institutional Review Board of the *Universidade Federal de Santa Maria* (CAAE: 0070.0.243.000-09), and linked the Research Group Work, Health, Education and Nursing at the Department of Nursing of the same University.

The place of study was the University Hospital of Santa Maria (UHSM), located in the Mid-West of the state of Rio Grande do Sul, Brazil. Data collection occurred in 2009, by completing a questionnaire, during the study participants' work hours.

The study population consisted of 592 nursing workers. Of this total, 498 (84.1%) participated in the study. Losses (15.8%; n=94) resulted from refusals to participate in the research.

The following inclusion criteria were established: being a nurse, medical technician or nursing assistant from the UHSM staff. And, as exclusion criteria: being a nursing worker with temporary contracts, being on leave or away from work, or on vacation during the collection period.

The exposure to Minor Psychiatric Disorders (independent variable) was assessed, using the version validated in Brazil<sup>11</sup> of the Self-Reporting Questionnaire-20 (SRQ-20). This instrument contains 20 questions on symptoms and problems that have occurred in the last 30 days before the data collection. Table 1 shows the items in the SRQ-20 by group of symptoms.<sup>12</sup> It is noteworthy that, in this variable, of the 498 participants, 68 (13.6%) left one or more questions of the SRQ-20 blank. It was decided to exclude them, totaling 430 valid questionnaires for the analysis of this variable.

In the SRQ-20, the alternative scores were zero (0) or one (1), wherein score 1 indicates that

the symptom was present in the last month, and zero (0) that it was absent.<sup>11,13</sup> For suspected MPD, seven positive responses for both men and women were considered as the cut-off point, based on previous research with nursing workers.<sup>14</sup> The overall raw Cronbach's Alpha coefficient of the SRQ-20 was 0.84.

The work ability (outcome) was assessed by using the version translated into Portuguese of the Work Ability Index (WAI).<sup>1</sup> The WAI was prepared by the Finnish Institute of Occupational Health (FIOH) and consists of seven items, with scores ranging from seven to 49 points. The result depicts the workers' concept of their own work ability: low capacity (7-27 points), moderate capacity (28-36), good capacity (37-43) or great capacity for work (44-49).<sup>1</sup> For the analyses, it was dichotomized into "reduced capacity" (7-36 points) and "good/great capacity" (37-49 points).

Sociodemographic variables (gender, age, ethnicity/race,<sup>15</sup> education, marital status), labor (function, labor sector, time in the function and in the sector, shift, weekly working hours, other job) and health features (health status compared to other people, health status compared to 12 months ago, sleep, smoking) were also analyzed.

To build the database, the data were included in Epi-Info®, version 6.4 through independent double entry. After certifying the consistency of the data, the analysis was conducted in the software SASW Statistics® (Predictive Analytics Software, SPSS Inc.) 18.0 for Windows. Descriptive analyses and bivariate analyses were carried out to verify the association between exposure and the outcome of each of the covariates studied. The statistical significance of the associations was evaluated using the chi-square test ( $p < 0.05$ ).

Multivariate analysis was calculated by means of binary logistic regression. To select possible confounding variables (associated with both exposure and outcome), a confidence level of 75% ( $p \leq 0.25$ ) was established. During the bivariate analyses, the following potential confounding factors were evidenced: gender, education, workload, other job, health status, current health status, sleep, smoking and age. Age was forced in the model, given that the greater the age, the

lower the work ability may be. Logistic regression models were run for all variables that were removed from the models as the  $p$  value was over 25%. Multicollinearity evaluation was carried out on the model adopted by calculating the Variance Inflation Factor (VIF), where the minimum value is equal to 1.0 and values  $> 10.0$  may indicate collinearity problems. In this study, the VIF ranged from 1.020 to 1.596, indicating absence of multicollinearity.

We used the Hosmer-Lemeshow Test to verify the adequacy of the regression models. In this test, the values range from zero (0) to 1, and the closer to 1, the better the appropriateness of the model.<sup>16</sup> The association measure used was the Odds Ratio (OR) and its respective confidence intervals (95% CI).

## RESULTS

Characterization of the population: the sociodemographic profile of the nursing workers appoints a predominance of females (87.8%;  $n=437$ ), aged 47-69 years old (32.7%;  $n=163$ ), mean of 41.3 years old ( $\pm 8.9$  years; minimum age of 24 and maximum of 69 years old), technical course in nursing (36.1%;  $n=180$ ), married or living with a partner (69.3%;  $n=345$ ). Concerning education, 129 (36.5%) medical technicians/nursing assistants presented an undergraduate degree and 32 (9.1%) possessed a graduate degree. The labor variables indicate the prevalence of medical technicians (44.6%;  $n=222$ ), followed by nurses (28.9%;  $n=144$ ) and nursing assistants (26.5%;  $n=132$ ), and professionals who worked at night (40%;  $n=199$ ) and who had another job (82.1%;  $n=409$ ).

The prevalence of suspected MPD was 33.7%. Table 1 contains the answers to the SRQ-20 items, distributed in four groups of symptoms.<sup>12</sup>

The average number of positive responses to the SRQ-20 was 4.77 ( $\pm 3.96$ ; minimum zero (0) and maximum 17) and the median value was 4. Table 1 describes the frequency of workers who chose the option "yes" to each question of the SRQ-20, permitting the identification of the prevalence and showing the concentration of workers in the group of somatic symptoms.

**Table 1 - Affirmative answers to the items of the Self-Reporting Questionnaire (SRQ-20) distributed in four groups of symptoms. Santa Maria-RS, 2012 (n=430\*)**

Group of symptoms	Self-Reporting Questionnaire-20 questions (SRQ-20)	n	%
Depressive-anxious mood	Do you feel nervous, tense or worried?	292	67,9
	Do you startle easily?	112	26,0
	Have you been sad lately?	181	42,1
	Have you cried more than usual?	86	20,0
	Do you have frequent headaches?	238	55,3
Somatic symptoms	Do you sleep badly?	207	48,1
	Do you have unpleasant sensations in the stomach?	202	46,9
	Do you have indigestion?	145	33,7
	Do you have lack of appetite?	34	7,9
	Do you have hand tremors?	84	19,5
Vital energy decrease	Do you get tired easily?	175	40,7
	Do you have trouble making decisions?	88	20,5
	Do you find it difficult to perform with satisfaction your daily activities?	131	30,5
	Do you have difficulties at work (your job is painful, it causes you pain)?	45	10,5
	Do you feel tired all the time?	87	20,2
Depressive thoughts	Do you have difficulty thinking clearly?	126	29,3
	Are you unable to play a useful role in your life?	39	9,1
	Have you lost interest in things?	75	17,4
	Have you thought about ending your life?	14	3,3
	Do you feel like a useless person?	14	3,3

\* Of the 498 questionnaires, 68 containing blank responses were excluded (missing).

The distribution of nursing workers according to the WAI was classified as follows: 41.4% (n=206), good work capacity; 37.6% (n=187), moderate capacity; 15.3% (n=76), great capacity; and 5.7% (n=29) low capacity. For the analysis, the

classification of the WAI was dichotomized into good/great (56.7%) and low/moderate (43.3%) capacity. The latter was considered as reduction of work capacity.

**Table 2 - Distribution of nursing workers of the University Hospital according to the responses on the Minor Psychiatric Disorders (MPD) Self-Reporting Questionnaire-20 and Work Ability Index (WAI), by sociodemographic characteristics. Santa Maria-RS 2012**

Sociodemographic variables	MPD						WAI			
	n	No		Yes		p*	n	Reduced Capacity		p*
		n	%	n	%			n	%	
Gender	428					0,011				0.001
Female		248	64.4	137	35.6		437	200	45.8	
Male		36	83.7	7	16.7		59	14	23.7	
Age group	414					0.589				0.021
24-36 years old		94	67.1	46	32.9		155	55	35.5	
37-46 years old		89	62.7	53	37.3		162	69	42.6	
47 to 69 years old		90	68.2	42	31.8		163	83	50.9	
Education	430					0.119				0.108
High school		111	67.7	53	32.3		192	84	43.7	
College		76	59.4	52	40.6		143	71	49.7	
Graduate		98	71	40	29		172	61	37.7	
Marital status	426					0.502				0.898
Married/with partner		195	65.7	102	34.3		345	149	43.2	
Single/without partner		89	69	40	31		148	63	42.6	
Ethnicity/race†	425					0.916				0.407
Black		6	60	4	40		15	6	40.0	
Mulatto/Asian/Indigenous		30	66.7	15	33.3		425	27	51.9	
White		245	66.2	125	33.8		52	180	42.4	

\* Pearson's chi-square test; <sup>†</sup>Mulatto, indigenous and Asian.



A significant difference was observed for suspected MPD (35.6%, N=137) and reduction of work capacity (45.8%; n=200) among female workers. Regarding the age group, it was identi-

fied with statistical significance that, the greater the age, the higher the percentage of reduction of work capacity (Table 2).

**Table 3 - Distribution of nursing workers of the University Hospital according to the responses on the Minor Psychiatric Disorders (MPD) Self-Reporting Questionnaire-20 and Work Ability Index (WAI), by labor characteristics. Santa Maria-RS 2012**

Labor variables	MPD					WAI			
	n	No		Yes		p*	Reduced Capacity		p*
		n	%	n	%		n	%	
Function	430					0.276			0.059
Nurse		85	70.2	36	29.8		144	53	36.8
Medical technician/ Nursing assistant		200	64.7	109	35.7		354	163	46.0
Weekly working hours	430					0.082			0.026
30h per week		105	61.4	66	38.6		187	93	49.7
36h per week		180	69.5	79	30.5		311	123	39.5
Work shift	430					0.212			0.645
Day	430	122	69.7	53	30.3		211	89	42.2
Night		163	63.9	92	35.1		287	127	44.3
Work experience in the care sector	418								0.606
Under 6 years		150	66.1	77	33.9	0.981	260	109	41.9
≥ 7 years		126	66.0	65	34.0		226	100	44.2
Time on the job	425					0.461			0.106
Under 13 years		144	64.3	80	35.7		255	101	39.6
≥ 14 years		136	67.7	65	32.3		237	111	46.8
Another job	430					0.007			0.073
No		226	63.5	130	36.5		409	185	45.2
Yes		59	79.7	15	20.3		89	31	34.8
Hour load in other job	70					0.868			0.050
Up to 20h		28	77.8	8	22.2		39	17	43.6
From 21-44h		27	79.4	7	20.6		43	10	23.3

\* Pearson's chi-square test.

Considering the labor variables, not having another job was statistically significant for suspected MPD (36.5%; n=130). As regards the reduction of work capacity, the following were significant: a

workload of 30 hours at the institution (49.7%; n=93), having up to 20 hours of weekly work hours in another job (43.6%; n=17), revealing a trend among medical technicians and nursing assistants (p=0.059).

**Table 4 - Distribution of nursing staff of the University Hospital in accordance with the answers to the Minor Psychiatric Disorders (MPD) Self-Reporter Questionnaire-20 and Work Ability Index (WAI), by health characteristics. Santa Maria-RS 2012**

Health characteristics	MPD					WAI			
	n	No		Yes		p*	Reduced Capacity		p*
		n	%	n	%		n	%	
Health condition compared to others	430					<0.001			<0.001
Very good		93	90	10	9.7		142	26	18
Good		166	68	80	33		275	123	45
Regular		25	33	50	67		75	61	81
Bad		1	17	5	83		6	6	100
Health status compared to 12 months ago	429					<0.001			<0.001

Health characteristics	MPD					WAI			
	n	No		Yes		p*	Reduced Capacity		p*
		n	%	n	%		n	%	
Better		56	68	27	33		102	47	42
Equal		191	74	68	26		307	109	36
Worse		37	43	50	58		88	60	68
Sleep	430					<0.001			<0.001
Very dissatisfied		20	63	12	38		44	16	36
Dissatisfied		51	46	59	54		112	63	65
Neither satisfied nor dissatisfied		46	61	30	40		80	42	53
Satisfied		154	79	40	21		235	79	34
Very satisfied		14	78	4	22		27	6	22
Tobacco use	428					0.1			0.006
I have never smoked		210	68	99	32		364	148	41
I smoked, but stopped		56	71	23	29		87	37	43
Smoking		18	45	22	55		44	29	66

\* Pearson's chi-square test.

As for the health characteristics, there was a significant difference between the groups with respect to perceived health status as poor/worse (general and current) and being dissatisfied with one's sleep, for suspected MPD as well as for the reduction of work capacity. Smokers had a higher prevalence of low WAI.

The results of crude and adjusted analyses between MPD and reduction of work capacity are described in table 5.

**Table 5 - Crude and adjusted associations between Minor Psychiatric Disorder and reduction of work capacity. Santa Maria-RS 2012**

Minor Psychiatric Disorder	WAI reduced OR (95% CI)	Hosmer - Lemeshow Test
Crude Association*	5.21(3.34-8.11)	-
Model 1†	2.59(1.56-4.30)	0.681
Model 2‡	<b>2.70(1.59-4.57)</b>	<b>0.975</b>
Model 3§	2.67(1.58-4.51)	0.862
Model 4	5.15(3.24-8.20)	0.747

\*Crude association = MPD; †MPD + gender + education + workload + other job + health status + current health status + sleep + smoking; ‡MPD + gender + education + workload + other job + health status + current health status + sleep + smoking + age; §MPD + gender + workload + health status + current health status + sleep + smoking + age; ||MPD + gender + workload + age.

Table 5 shows that, according to the Hosmer-Lemeshow test, Model 2 is the one that best explains the association. Therefore, the adjusted analyses between MPDs and reduction of work capacity showed that, even after adjusting for confounding factors, the nursing workers with suspected MPD were twice as likely to have reduc-

tion of work capacity (OR=2.70; 95% CI=1.59-4.57) when compared to workers without suspicions.

## DISCUSSION

The results of this study showed that nursing workers showing MPD are more likely (OR=2.70; 95% CI 1.59-4.57) to be classified with reduction of work capacity compared to those without suspicion, even after adjusting for possible confounding factors (gender, education, workload, other job, health status, current health status, sleep, smoking, age). Therefore, there was a positive association between MPD and reduction of work capacity in the workers surveyed.

Work is an activity that requires a direct relationship between physical and psychic aspects and may represent balance and satisfaction or cause tension and physical or psychological illness to the workers.<sup>3</sup> With regard to nursing, these workers are subject to organizational stress and face an additional emotional demand inherent in their profession, as activities with biological, physical, chemical, ergonomic, mechanical, psychological and social risk.<sup>14</sup> Thus, daily situations that cause stress, anxiety and suffering, such as pain experiences, feelings of helplessness and loss of patients, may lead workers to develop MPD.

In this study, it seems that such disorders may be negatively influencing the work ability in nursing. The positive association between MPD and reduction of work capacity appoints that its consequences are not only limited to physical and psychological damage caused to the employee, but also entail consequences throughout the service

and can increase the number of work leaves. In this case, there would be even further overload on other workers, affecting the quality of care provided to the user.

The prevalence of suspected MPD (33.7%) is higher compared to another study,<sup>4</sup> which evaluated the association between psychological demand and job control and occurrence of minor psychiatric disorders among nursing workers. Thus, reflections are needed on the high percentage of workers classified with suspicion of MPD in this study, in order to achieve higher scores for work ability.

In this context, it is noteworthy that the results appoint that being a female worker, not having another job, considering one's health as poor, considering one's current health condition as worse compared to 12 months ago and being dissatisfied with sleep are conditions that can promote the development of MPD ( $p < 0.05$ ). Regarding the WAI, being female, being between 47 and 69 years old and having a weekly workload of 30 hours are conditions that can lead to reduction of work capacity ( $p < 0.05$ ). Some studies indicate that, with increased age, the work ability decreases and this decrease is more pronounced at ages higher than 45 years.<sup>17-18</sup> These data can be explained by the morphological and physiological changes associated with aging.

Research results regarding suspected MPD in relation to gender, age, marital status, education and function, are not consensual.<sup>4,14</sup> In this study, a higher prevalence of suspected MPD was identified among female workers aged between 37-46 years old, married, graduate and medical technicians or nursing assistants.

A study carried out with nursing professionals at the university hospital of the state of Rio Grande do Sul identified higher rates of MPD among male workers, aged 22-38, married or with a partner, non-graduate, and medical technicians or nursing assistants<sup>4</sup>. Another study, carried out with the nursing staff of the emergency unit of a general hospital in the city of Feira de Santana/Bahia, indicated the prevalence of suspected MPD in females older than 36 years old, unmarried, graduated, and in nurses, with twice the risk presented by medical technicians and nursing assistants.<sup>14</sup>

In this study, graduated and medical technicians or nursing assistants showed the highest suspected MPD. It is important to note that a considerable percentage of medical technicians and nursing assistants at the study hospital held

undergraduate and graduate degrees but were still working as medical technicians or nursing assistants. It is known that the higher the education, the greater the possibility of choices in life, which influences future socioeconomic conditions and social inclusion in the occupational structure.

Perhaps this context of a higher qualification in relation to what is required by law for the position may have negative consequences on mental health though (higher percentage of MPD). Taking into account that these workers also showed a significant reduction of work capacity, this may entail consequences for physical health. This hypothesis is strengthened when identifying that 46% of the medical technicians and nursing assistants surveyed had reduction of work capacity, results higher than that found in another study with nursing assistants.<sup>19</sup>

The identification of a higher prevalence of suspected MPD among workers who did not have another job ( $p = 0.007$ ) corroborates other studies.<sup>4,14</sup> It is noteworthy that many workers of the research hospital who did not have another job worked extra shifts during their spare time, as a way to supplement their salary. Thus, they extended their workday and committed the time devoted to rest, leisure and family. By extending their workday, they end up intensifying the physical and psychological strain, resulting in factors that can lead to stress and illness,<sup>14</sup> like mental disorders for example.

In addition, it brings back the discussion about the high percentage of workers who seek professional qualification through undergraduate and graduate programs, allocating their time off work to study. Nursing work by itself can be a source of burnout for workers, since workers are active in sectors that are considered stressful because of the workload, as particularities of the tasks.<sup>14</sup> Thus, it is believed that the nursing work, combined with the study, which also deserves time, can cause physical and mental burnout in the workers.

Although not statistically significant ( $p = 0.073$ ), the study found that 45.2% of workers who did not have another job were classified with reduction of work capacity, which is perhaps indicating that the increase in work hours due to overtime may influence work ability.

The results presented outline that the SRQ-20 questions had a higher prevalence of positive responses, which were related to the group of somatic symptoms and should be carefully



analyzed, as they appointed symptoms that can interfere negatively in the work ability, such as headaches, sleeping poorly, unpleasant sensations in the stomach and indigestion. In this context, it is necessary to seek an environment with better work conditions, as well as measures to promote health, prevention of diseases and listening along with the nursing staff, and an available and active health service for the workers.

In addition, it is important to develop and implement strategies aimed at reducing risks and promoting health and safety at work,<sup>19</sup> thus contributing to the maintenance of work ability. Improvements in the work conditions of the nursing staff influence not only the workers' health, but also the entire service, in view of a smaller number of absences, which affect the care offered to patients.

Despite the limitations of cross-sectional designs in establishing cause and effect relationships, as well as the bias resulting from the prevalence of the healthy worker effect, it is believed that these problems are minimized, because minor psychiatric disorders are considered as a chronic outcome of high prevalence, with comparisons being made among the nursing staff.

## CONCLUSIONS

The results of this study confirm the research hypothesis, since they indicate that the nursing workers with suspected MPD were twice as likely to have reduction of work capacity compared to workers without suspected MPD, even after adjusting for possible confounding factors.

The high prevalence of both MPD (33.7%) and reduction of work capacity (43.3%) denotes a health problem that needs to be continually investigated because the demands and pressures of a profession that deals with suffering and illness daily can enhance the emergence of these diseases. Thus, it is important to look at these workers carefully, searching for measures of health promotion, illness prevention, listening to the nursing workers. In addition, the institution needs to provide for a health service for active workers.

The study contributes to the evaluation of mental health related to work ability of nursing workers, identifying occurrence patterns and associated factors. The relevance of the findings on the sociodemographic, employment and health characteristics suggests that the reduction of mental and physical health problems in nursing

workers depends on the workers and managers in favor of improvements in work conditions.

The instruments (WAI and SRQ-20) used in this study are easy to apply. In this sense, follow-up studies with the workers of this study are suggested. Wide-ranging epidemiological studies are useful to evaluate work and health conditions at hospitals. These may suggest causal evidence and support the design of policies focused on health workers, including interventions for the promotion of mental health, risk prevention and control of work capacity hazards.

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