REME • Rev Min Enferm. 2019;23:e-1260
DOI: 10.5935/1415-2762.20190108

RESEARCH

WORK ABILITY ASSESSMENT FOR NURSING TEAM WORKING AT A LARGE HOSPITAL IN THE REGION OF *TRIÂNGULO MINEIRO* – MG

AVALIAÇÃO DA CAPACIDADE PARA O TRABALHO DA EQUIPE DE ENFERMAGEM QUE ATUA EM UM HOSPITAL DE GRANDE PORTE NA REGIÃO DO TRIÂNGULO MINEIRO – MG

EVALUACIÓN DE CAPACIDAD DEL TRABAJO DEL PERSONAL DE ENFERMERÍA DE UN GRAN HOSPITAL DEL TRIÁNGULO MINEIRO – MG

Deusdélia Dias Magalhães Rodrigues [1]
Rafael Lemes de Aquino [1]
Douglas Eulálio Antunes [2]
Marcos Martins da Costa [1]
Paulo Cézar de Oliveira [1]
Ailton de Souza Aragão [3]

[1] Universidade Federal de Uberlândia – UFU, Hospital de Clínicas da Universidade Federal de Uberlândia. Uberlândia, MG – Brazil.
[2] Distrito Federal (BR), Secretaria Estadual de Saúde do Distrito Federal, Secretaria de Saúde. Brasília, DF – Brazil.
[3] Universidade Federal do Triângulo Mineiro – UFTM, Departamento de Medicina Social. Uberaba, MG – Brazil.

Corresponding author: Deusdélia Dias Magalhães Rodrigues
E-mail: deusdeliadias@hotmail.com

Author's Contribuitions:
Data Collection: Deusdélia D. M. Rodrigues, Marcos M. Costa; ***Methology:*** Deusdélia D. M. Rodrigues, Rafael L. Aquino, Ailton S. Aragão; ***Project Management:*** Deusdélia D. M. Rodrigues, Ailton S. Aragão; ***Software:*** Douglas E. Antunes, Paulo C. Oliveira; ***Statistical Analysis***: Douglas E. Antunes, Paulo C. Oliveira; ***Writing – Original Draft Preparation:*** Deusdélia D. M. Rodrigues, Rafael L. Aquino, Marcos M. Costa, Paulo C. Oliveira, Ailton S. Aragão; ***Writing – Review and Editing:*** Ailton S. Aragão.

Funding: No funding.

Submitted on: 2019/02/16
Approved on: 2019/09/24

ABSTRACT

Objective: this study aimed to obtain and analyze the work ability index (WAI) and the relationship with the individual and contextual aspects to work. **Method:** cross-sectional study with quantitative approach and descriptive character, with 164 Nursing staff professionals of a large hospital in *Triângulo Mineiro*, MG, in the year 2018. The WAI questionnaire plus sociodemographic and epidemiological variables was applied. The statistical treatment adopted the Statistical Package for Social Sciences (SPSS) software. For the analysis of the WAI score, the analysis of variance (ANOVA) of repetitive measures was used, followed by the Tukey test and linear regression were applied. **Results:** there was a prevalence of females (135.81%), age between 31 and 40 years (46%) and current role as Nursing technicians (74.45%). In the overall WAI score, 89 (54%) presented good work ability (WA), obtaining between 37 and 43 points. There was significance between 41 and 60 years ($p = 0.002$) and in the variable "ability to enjoy life in relation to mental resources" ($p = 0.0045$). **Conclusion:** age and mental resources were the main variables that directly affected the WC of Nursing personnel. Thus, the conclusions presented through the WAI score indicate that quantifying the WA allows the elaboration of measures that contribute to maintain and restore personnel's' health, in front of their work scope.

Keywords: Work Capacity Evaluation; Nursing Team; Occupational Health; Work Conditions; Nursing Research.

RESUMO

Objetivo: *este estudo objetivou obter e analisar o índice de capacidade para o trabalho (ICT) e a relação com os aspectos individuais e contextuais ao trabalho.* ***Método:*** *estudo transversal com abordagem quantitativa e caráter descritivo, com 164 profissionais da equipe de Enfermagem de um hospital de grande porte do Triângulo Mineiro, MG, no ano de 2018. Aplicou-se o questionário do ICT acrescido de variáveis sociodemográficas e epidemiológicas. E no tratamento estatístico adotou-se o software Statistical Package for the Social Sciences (SPSS). Para a análise do escore do ICT utilizou-se a análise de variância de medidas repetitivas (ANOVA), e no pós-teste aplicou-se de Tukey e teste de regressão linear.* ***Resultados:*** *houve prevalência do sexo feminino (135, 81%), faixa etária entre 31 e 40 anos (46%) e função atual como técnicos de Enfermagem (74, 45%). No escore geral do ICT, 89 (54%) apresentaram-se com boa capacidade para o trabalho (CT), obtendo entre 37 e 43 pontos. Houve significância entre 41 e 60 anos ($p=0,002$) e na variável "capacidade de apreciar a vida em relação aos recursos mentais" ($p=0,0045$).* ***Conclusão:*** *a idade e os recursos mentais apresentaram-se como as principais variáveis que incidiram diretamente sobre a CT dos trabalhadores de Enfermagem. Assim, as conclusões apresentadas por meio do escore do ICT indicam que quantificar a CT permite a construção de medidas que contribuam para manter e restaurar a saúde do trabalhador, frente ao seu âmbito de trabalho.*

Palavras-chave: *Avaliação da Capacidade de Trabalho; Equipe de Enfermagem; Saúde do Trabalhador; Pesquisa em Enfermagem.*

How to cite this article:
Rodrigues DDM, Aquino RL, Antunes DE, Costa MM, Oliveira PC, Aragão AS. Work ability assessment for Nursing team working at a large hospital in the region of *Triângulo Mineiro* – MG. REME – Rev Min Enferm. 2019[cited _____ ___ ___];23:e-1196. Available from: _____ DOI: 10.5935/1415-2762.20190108

RESUMEN

Objetivo: *obtener y analizar el índice de capacidad de trabajo (ICT) y la relación con los aspectos individuales y contextuales para trabajar.* ***Método:*** *estudio transversal de enfoque cuantitativo y carácter descriptivo, con 164 profesionales del personal de enfermería de un gran hospital del Triângulo Mineiro, MG, en 2018. Se aplicó el cuestionario del ICT con variables sociodemográficas y epidemiológicas. Para el tratamiento estadístico se adoptó el software Statistical Package for the Social Sciences (SPSS). Para el análisis de la puntuación del ICT utilizamos el análisis de varianza de medidas repetitivas (ANOVA), en la prueba posterior y en la prueba de Tukey y en la prueba de regresión lineal.* ***Resultados:*** *prevalencia de mujeres (135, 81%), edad entre 31 y 40 años (46%) y función actual como técnicos de enfermería (74, 45%). En el puntaje general del ICT, 89 (54%) presentaron buena capacidad de trabajo (CT), con entre 37 y 43 puntos. Hubo significación entre 41 y 60 años (p = 0,002) y en la variable "capacidad de disfrutar la vida en relación con los recursos mentales" (p = 0,0045).* ***Conclusión:*** *la edad y los recursos mentales fueron las principales variables que afectaron directamente la CT del personal de enfermería. Por lo tanto, las conclusiones presentadas a través del puntaje del ICT indican que la cuantificación de la CT permite la construcción de medidas que contribuyen a mantener y restaurar la salud de los trabajadores ante el ambiente laboral.*

Palabras clave*: Evaluacíon de Capacidad de Trabajo; Grupo de Enfermería; Salud Laboral; Condiciones de Trabajo; Investigacíon em Enfermería.*

INTRODUCTION

Work ability (WA) is a dynamic process that, due to the association between human resources and work, tends to undergo significant changes over the years. This process is related to the degree of work demand, such as: exhaustive workloads, fragmentation of tasks and reduction of inadequate staff, which increase the risk of accidents, impairing the personnel's WA. Thus, measures of promotion, protection, prevention and recovery become fundamental when it comes to the search for strategies for health care for employees.[1,2]

In this universe is Nursing, considered the largest workforce in health services, ensuring care and continuous health assistance.[1-3] The combination of daily care routine and organizational culture associated with the demands of the profession is a factor that exposes these professionals to physical and mental stressors. The sum of these stressors can compromise WA and promote functional limitations over the years of service, manifested by physiological (chronic and acute), psychological and behavioral responses.[4]

The Nursing staff performs various functions in the hospital environment, from assistance and care to management services. In this environment, most of the time is available for direct patient care, seeking to meet the biopsychosocial demands, amid the processes of pain, suffering and recovery of assisted individuals, configuring itself as a profession with multiple functions.[1,5]

It is noticed in the work environment of the Nursing team that the quality of WA becomes more vulnerable to direct impacts that directly influence the quality of life at work. The daily demands of work organization interfere with well-being, social relations, leisure and others, which may result in physical and mental exhaustion of this group.[6,7]

As the daily demands of work are intensified, they produce physical and mental exhaustion in the employee, making one more vulnerable to the development of diseases such as fatigue, musculoskeletal disorders, psychological and/or mental impairment, among others. In addition, it increases absenteeism rates, which will directly affect life at work and beyond.[2,5] Thus, it is identified that the body's responses to work overload, whether physiological, psychological or behavioral, reveal the negative effects of such overload on WA and personnel' health.[2,4,8]

From the perspective of the health professional, the concept of "work ability for work" was developed as a way of understanding the ability of the employee to perform work activities, related to the daily demands of the work environment and the state of physical and mental health.[4] In order to better understand this process, the Work Ability Index (WAI) instrument was developed from research in Finland in the 1980s and is the most used instrument to measure WA. It takes as reference the perception of the employee in relation to self-WA through the evaluation of seven dimensions, involving the physical and mental work demands of the work.[1,4,9]

It was developed in an aging scenario of the world population, based on the prospect of promoting work ability as a way of improving quality of work, quality of life, well-being and favoring active and meaningful retirement.[10] It assesses an individual's ability to perform the duties in the present as well as in the near future. In addition to a better understanding of the WA of this employee, the instrument allows the direction of strategies aimed at the integral care of this group.[9,11]

The WAI instrument itself, in its syntax, guides some actions to be performed after visualizing the professional's ability to work. If the employee is rated as having moderate ability, means should be provided to encourage the promotion of his or her ability, from regular physical activity to sleep and working environment care.[4,11] With a *good ability* to work, the institution must pay attention to the support necessary for the maintenance and health care of this employee.[9,6]

WAI has been adopted more frequently in Nursing services for the evaluation of WA. This is due to the peculiarities of the profession, considering the long shifts, mental demands on care, the organizational structure of health services and the accumulation of jobs, factors that directly affect the health of these employees.[2] The contextualized combination of these and of other elements impacts the lives of these subjects, being

characterized as determinants in the compromise of health, well-being and quality at work.[5,12,13]

Understanding the Nursing staff's WA from the reality of work in the hospital promotes the identification of factors that affect the loss of this ability. And yet, in the participatory elaboration of strategies that help the implementation and adoption of health care practices that contribute to maintain and recover the WA of the team.

In this perspective, the study aimed to obtain and analyze the WAI of the hospital Nursing team and its relationship with the individual and contextual aspects of work.

METHODOLOGY

This is a cross-sectional study with a quantitative and descriptive approach, conducted with the Nursing staff distributed among the three categories of the profession: nurses, technicians and Nursing assistants, in a large hospital in the region of *Triângulo Mineiro, MG*.

This hospital has 520 beds and more than 50.000 m^2 of built area, being considered the largest service provider of the *Sistema Único de Saúde* (*SUS*) in *Minas Gerais*, and the third in the ranking of the largest university hospitals in the *Ministério da Educação* (*MEC*). It is a medium and high complexity reference for 86 municipalities of the *Norte do Triângulo* macro and micro regions.

According to the institution's Human Resources Sector, the staff of Nursing professionals in 2017 add up to 1.176 working professionals, subdivided into 596 technicians, 364 Nursing assistants and 215 nurses. For sample calculation, 5% sampling precision and 95% confidence level were considered to delineate the minimum and maximum size. Thus, the total sample resulted in a maximum of 437 individuals and a minimum of 158 Nursing professionals, distributed among the three categories. The sample size calculation was performed using the mathematical formula: $n = \frac{Z^2 pqN}{d^2(N-1) + Z^2 pq}$, where:

n = calculated sample; N = population; Z = standardized normal variable associated with the level of confidence and significance given by the Gaussian distribution shape; e = sampling error; p = true probability. In the present test, 5% sampling precision and 99% confidence level were considered to delineate the minimum sample size. Sample losses were estimated with a percentage of 5%, considering the participant's dropout throughout the survey, such as questionnaires with less than 50% of the questions answered.

A total of 164 professionals participated in the research, being 64 (39%) nurses, 79 (48%) technicians and 21 (13%) assistants. For the evaluation of the WAI, only the current occupation in the service was considered, since some professionals are housed in the institution differently from the professional qualification, for example: they may have a degree in Nursing but are acting as Nursing technicians or assistants. Thus, the current declared occupation resulted in the sample of 55 (34%) acting as nurses, 74 (45%) as technicians, 32 (20%) Nursing assistants and three (1%) non-responders.

To be included in the research, the Nursing employee should be in the workplace; have an effective bond with the institution; consent and sign the Informed Consent Form (ICF). Professionals with less than 180 days of service (adaptation phase), those on leave due to vacation, time off, sick leave or work during the period for data collection were excluded.

Information was obtained between January and May 2018 during the three shifts in all sectors of the hospital. Participants were approached directly from the invitation to participate in the research. Initially, the self-applicable and anonymous questionnaire was adopted.

Secondly, we used the Work Ability Index (WAI) questionnaire, a self-applicable instrument translated into Brazil in 2005 and validated in 2008[4]. This was added by sociodemographic and epidemiological variables in order to better characterize the target audience. determine which of these variables could be associated with impairments in WA.[10]

With the WAI instrument one obtains and evaluates the perception that the employee has of its own WA from the evaluation of seven dimensions:

- ability for current work;
- ability to work in relation to job requirements;
- current number of diseases diagnosed by doctor;
- estimated absence from work due to illness;
- absence from work due to illness in the last 12 months;
- own prognosis about work ability;
- mental resources.

The WAI score is given by the sum of the points admitted for each item and ranges from seven to 49 points, being classified according to the ability to work according to the obtained score: seven to 27, low; 28 to 36, moderate; 37 to 43, good; 44 to 49, great work ability.[10,11]

To determine which variables would be associated with the WAI structure score point values, the questionnaire data were subjected to statistical treatment. Thus, the database was built on Excel software version 2017; Statistical Package for the Social Sciences (SPSS), version 21.0, was used for the statistical treatment of the data.

Data were analyzed using simple descriptive statistics, using Pearson's chi-square test to verify the significance level between the variables, considering $p<0.05$, and the Kruskal-Wallis test for verification of the statistical difference between the groups.

For the treatment of the WAI score, the test of variance analysis (ANOVA) of repetitive measures was applied. Afterwards, the Tukey test was used to compare all pairs and determine the significant points of the WAI dimensions, associating it with the linear regression test and the multiple regression test to verify which items of the independent variables influence the outcome. of the dependent variable item.

Among the seven dimensions evaluated by the instrument, for the analysis of the WAI score, the following variable was considered as the dependent variable: "current work ability compared to the best quality of life". The remaining items were considered independent variables.

The ethical criteria of research involving human beings were respected, as recommended by National Health Council/ *Conselho Nacional de Saúde* (CNS), Resolution Nº 466/2012. The study was approved by the Research Ethics Committee of the *Universidade Federal do Triângulo Mineiro*, with favorable opinion report Nº 2.427.424 and CAE 76005317000005154.

RESULTS

As exposed, the final sample consisted of 164 Nursing staff professionals, distributed among the three categories analyzed, corresponding to 79 (48%) technicians, 64 (39%) nurses and 21 (13%) Nursing assistants. Of these, 81% were female and 18% male. There was prevalence in the age group between 31 and 40 years (46%); 53% said they were married. Regarding the level of academic education, 33% reported having completed some specialization and 13% had a master's degree and/or doctorate.

Regarding the current role performed at the study site, 74 (45%) were employed as Nursing technicians, followed by 55 (34%) as nurses and 32 (20%) as Nursing assistants. Regarding the workday, the workload predominated up to 40 hours per week, corresponding to 63% of the sample; 49% worked at night and 11% during the day. Regarding employment, 135 (82%) had only one job and 63% had been in the research development institution for over 10 years (Table 1).

Table 1 - Sociodemographic profile of the Nursing team personnel in the study. Brazil, 2019

Occupational characteristics	N= 164	*(%)
COREN (*Nursing professional register*)		
Technician	79	48
Nurse	64	39
Nursing Assistant	21	13
Work regime		
Unique Law Regime	100	61
Consolidation of Labor Law	60	37
Other	04	02

Continue...

... continued

Table 1 - Sociodemographic profile of the Nursing team personnel in the study. Brazil, 2019

Occupational characteristics	N= 164	*(%)
Working time at the institution*		
Over 10 years	104	63
5 to 10 years old	27	16
1 to 5 years	24	15
Less than 1 year	07	04
Employment bond		
1 bonds	135	82
2 bonds	27	16
Above 3 bonds	01	01
No response	02	01
Current occupation		
Nursing Technician	74	45
Nurse	55	34
Nursing Assistant	32	20
No response	3	01
Weekly workload		
Less than 40 hours	102	63
40 to 60 hours	53	32
Over 60 hours	05	03
Not answered	04	02
Work shift		
Night	80	49
Morning	34	21
Afternoon	32	20
Daytime	18	11

*Simple descriptive statistics.
Source: 2018 survey data.

The general analysis of the WAI score (Table 2), obtained after statistical treatment, identified that among the Nursing team personnel there was a prevalence of "good work ability", in which 89 (54%) of the participants obtained a score of 37 to 43 points. On the other hand, 61 (37%) were considered with "regular work ability", 9 (6%) excellent and 5 (3%) with "poor work ability" with a score between 7 and 27 points. The mean standard deviation ranged from 37.1 to 4.7, a minimum of 22 and a maximum of 47 points.

Statistical analysis of the variables directly related to the WAI, as presented, identified significant age-related variation, with p=0.002. It was found that between 41- and 60-years old Nursing personnel were classified as "regular work ability", with a score between 34.7 and 36.5 points and a median that ranged between 34 and 36 points. By contrast, those between the ages of 20 and 40 were considered to have "good work ability".

Table 2 - Distribution of the overall work ability index (WAI) score of the Nursing personnel participating in the study. Brazil, 2019

Work Ability Index Score*	N(164)	(%)
Good (37 to 43 points)	89	54
Regular (28 to 36 points)	61	37
Excelent (44 to 49 points)	9	6
Poor (7 to 27 points)	5	3
Total	**164**	**100**

Work ability index score.
*ANOVA.

The application of the Kruskal-Wallis test showed p=0.002 in the age group between 41 and 50 years old, showing interference of this variable in the work ability among this group (Table 3).

In the current occupation variable (Table 4), there was a significant statistical variation (p=0.007), which showed that, among the three functions of the Nursing category, 64% of nurses and 54% of technicians were classified as "good ability for work", while those in the role of Nursing assistant obtained scores that classified them as "moderate capacity".

In the evaluation of WA between Nursing categories, it was observed that the average score of the WAI points was very close among nurses (= 37.5 points) and Nursing technicians (= 37.7 points). Being classified as "good work ability", presenting a median ranging from 37 to 38 points. In contrast, the Nursing assistants obtained a lower average of 35.2 points, classified as having "moderate work ability", with a median of 36 points (Table 5).

Data evaluation with the Kruskal-Wallis test did not show any variation in the WAI score point values among the groups of nurses, technicians and Nursing assistants.

The "current work ability compared to the best in life" showed a value of p=0.0001. The other components of the WAI assessment: estimated work loss due to illness (category 1) and ability to appreciate life in relation to mental resources (category 7) obtained p values equal to 0.0043 and 0.0045, respectively, being statistically significant.

Table 3 - Classification of work ability of the sociodemographic profile of Nursing personnel, according to the work ability index (WAI). Brazil, 2019

Sociodemographic Characteristics	N	Ability to Work								p*
		Poor		Regular		Good		Excellent		
		n	%	n	%	n	%	n	%	
Gender										
Female	135	4	3	53	39	70	52	8	6	0.57
Male	29	1	3	8	28	19	66	1	3	
Age Range										
31 to 40 years old	76	2	3	21	28	48	63	5	7	0.002
41 to 50 years old	36	1	3	18	50	16	44	1	3	
51 to 60 years old	26	1	4	16	62	9	35	0	0	
20 to 30 years old	19	1	5	4	21	13	68	1	5	
> 61 years old	07	1	14	1	14	2	29	3	43	
Marital status										
Married	88	2	2	29	33	50	57	6	7	0.94
Not married	50	3	6	18	14	27	56	2	4	
Separated/Divorced	22	1	5	10	45	10	45	1	5	
Other	05	0	0	2	40	3	60	0	0	
Household income per capita										
Over 6 minimum wages	57	3	5	17	30	3	58	4	7	0.84
Between 2 and 4 minimum wages	48	1	2	22	47	22	47	2	4	
Between 4 and 6 minimum wages	39	1	3	16	41	20	51	2	5	
Between 1 and 2 minimum wages	01					1	10			
Not answered	20	1	5	6	30	11	0	2	10	

*Pearson's chi-square test.
ANOVA.

Table 4 - Classification of work capacity of Nursing workers, according to job characteristics. Brazil, 2019

Occupational Characteristics	N	Ability for Work								p*
		Poor		Regular		Good		Excelent		
		n	%	n	%	n	%	n	%	
Current function										
Technician	74	0	0	28	28	40	54	6	8	0.007
Nurse	55	2	4	16	29	35	64	2	4	
Nursing Assistant	32	1	3	18	56	12	37	1	3	
Not answered	03	1	33	1	33	1	33	0	0	
COREN										
Technician	79	0	0	33	42	41	52	5	7	0.24
Nurse	64	4	6	19	30	35	56	5	8	
Nursing Assistant	21	2	9	8	38	10	48	1	5	
Work regime										
**ULR	100	4	4	36	36	52	52	8	8	0.01
***CLL	60	0	0	25	42	34	57	1	2	
Other	4	2	50	0	0	2	50	0	0	
Working time at the institution										
Less than 1 year	07	0	0	3	43	3	43	1	14	0.67
1 to 5 years	24	0	0	7	29	17	71	0	0	
5 to 10 years old	27	1	4	11	41	14	52	1	4	
Over 10 years	104	4	4	39	37	54	52	7	7	
Not answered	2	0	0	2	100	0	0	0	0	
Employment bond										
1 bond	135	4	3	49	36	73	54	9	7	0.007
2 bonds	27	1	4	9	33	16	60	1	4	
3 bonds	0	0	0	0	0	0	0	0	0	
Above 3 bonds	1	0	0	1	100	0	0	0	0	
Not answered	1	1	100	0	0	0	0	0	0	
Weekly workload										
Less than 40 hours	102	2	2	37	36	55	54	8	8	0.13
40 to 60 hours	53	3	6	22	41	27	51	1	2	
Over 60 hours	05	0	0	0	0	5	100	0	0	
Not answered	04	1	25	1	25	2	50	0	0	
Work shift										
Night	80	4	5	30	37	43	54	3	4	0.34
Morning	34	1	3	11	32	21	62	1	3	
Afternoon	32	1	3	15	47	12	37	4	12	
Daytime	18	0	0	4	22	13	72	1	6	

*Pearson's chi-square test. **Unique Legal Regime. ***Consolidation of Labor Law.

Therefore, these variables had a relationship of dependence with the dependent variable and may affect the ability to work.

The value of the partial regression coefficient for the variable "ability to appreciate life in relation to mental resources" showed the value of t equal to 2.89 and p=0.0045, therefore, statistically significant. The same was observed in the variable "value of estimated work loss due to illness" (p=0.0043). Thus, the results reveal that both were directly related to losses in WA among Nursing professionals (Table 6).

Table 5 - Descriptive analysis of the work ability index (WAI) point score and classification of work ability by professional category in current institutional involvement. *Uberlândia*, MG – Brazil, 2019

Occupation	Descriptive Analysis					Classification			
WAI	X	SEM	Min	A	Max	P	R	G	E
Nurse	37.5	4.7	22	38	45	2	16	35	2
Technician	37.7	4.3	29	37	47	0	28	40	6
Nursing Assistant	35.2	4.9	24	36	44	1	18	12	1
Not anwered	34.3	7.1	27	35	41	1	1	1	0

Kruskal-Wallis test: p=0.89.
X=mean; SEM=standard error mean; N=sample number; Min=minimum; A=average; Max=maximum; P=poor; R=regular; G=Good; E=Excellent; WAI= work ability index point score.

Table 6 - p-values in the multiple regression analysis of the work ability index structure. *Uberlândia* (MG). Brazil, 2019

WAI Items	**p-values
Ability to work in relation to the physical nature of work	0.2545
Ability to work in relation to the mental nature of work	0.1719
Number of current illnesses diagnosed by doctor	0.6890
Estimated loss to work due to illness	0.0043
Absences from work (days) due to illness in the last 12 months	0.2924
Ability to enjoy life in relation to mental resources	0.0045
Ability to feel alert about mental resources	0.3653
Ability to have hope in the future regarding mental resources	0.9318

Multiple Regression Test.
**partial regression coefficient.

The positive correlation observed in the set of independent variables includes the outcome of the partial regression coefficient of the answers obtained from the questionnaire. By presenting a relationship of dependence with the "current work ability compared to the best in a lifetime", it is inferred that the disease can be an impediment to your current work because it has low levels of work ability. In the absence of disease, the integration of work with the elevation of satisfaction with their daily activities was observed, as well as mental comfort in the way of enjoying life in relation to mental resources.

DISCUSSION

When assessing the participants' WA, a significant relationship was found with age and mental resources. These variables were significantly contributing factors for WA losses in the work environment of these professionals.

The sociodemographic characteristics found in the study presented results similar to those of other studies[13] and, as this one, found a predominance of Nursing technicians (48%); female gender (81%); age group between 31 and 40 years (46%); married (53%); and most with institutional ties for over 10 years (63%).

Regarding the variable "age", there was a direct association with the decrease in WA from 41 years of age. Through the analysis of the WAI score, between 41 and 60 years old, the employees presented "regular work ability", with p value=0.002 and median score ranging between 34 and 36 points. In the age group between 20 and 40 years old, the same score showed a score between 37.9 and 37.7 points, classifying them as "good borderline to regular work ability". Thus, the results revealed that, from the age of 40, the functional decline among professionals became more intense.

Some research have already shown that, after 45 years of age, the worker is more vulnerable to impairments in physical and mental functional capacity, due to the body's own physiological changes, which may be aggravated by the onset of diseases[7,15]. Thus, the age variable constitutes an important contributor in the process of compromising workers' health, and may directly affect the WA, although younger people are also exposed to vulnerabilities that favor the illness and loss of this capacity.[13,15,17]

In a study with Nursing personnel, it was found that those aged 31 to 40 years presented changes in WA due to chronic diseases arising from aging processes.[18] It is observed that the impairment in body functions due to aging are the main factors that compromise the health of the individual, such as: difficulties in the performance of work activities, less social participation, decline in sensory functions that are directly related to more susceptibility to accidents and leaves, contributing to losses and impairment of work ability.[1,13,17]

A research conducted in 2009 that also evaluated WA among electrical personnel found a significant association between WA and the age variable, showing a p value equal to 0.001. This result is justified by the fact that this variable showed a strong correlation with time in years of service, which was prioritized in the analysis because it is a variable that represents exposure to work demands throughout the employee's life.[19] On the other hand, another study reports contrary results, in which, when assessing WA among elderly civil servants, it was found, through an average score of 41.45 points, that even after 60 years most participants had very good work ability.[20]

Regarding the "current occupation", an important meaning of this variable on the Nursing team's WA was observed. Among those who worked as nurses and technicians, 64 and 54%, respectively, rated themselves as "good work ability", with a score between 37.5 and 37.7 points according to the WAI. Therefore, 56% working as Nursing assistants obtained a score below 35.2 points, being considered with "regular work ability", so that this group showed more impairment of WA in the analyzed context.

When evaluating the WA of nurses from a hospital in Southern Brazil, the results of a survey showed that 88% had "good work ability", obtaining an average score of 41.8 points.[21] In a subsequent study with the same professional category related to WA, nurses (18.2%) had more commitment than Nursing technicians and assistants (17.7%).[13] Another investigation found, among the occupational characteristics of the Nursing team, that those performing the roles of Nursing technicians were more subject to more functional exhaustion when compared to nurses, considering the different functions in the work environment.[21]

The differences in WA between the categories of Nursing analyzed are justified because they are different fields of action and contextual realities of work. Thus, according to the research conducted, it is ensured that the type of role performed as well as the contextual characteristics of work can become compromising factors of work ability among these professionals.[6,13,14]

Regarding the variable "ability to appreciate life in relation to mental resources" (p=0.0045), the results show that these resources were statistically significant. This aspect indicates that the work activities performed by the Nursing staff can interfere and directly affect the WA in the lives of these personnel.

With regard to mental resources, some authors point out that the psychic overload present in the workplace stands out as the main factor that contributes to intensify the damage to mental resources, due to the daily demands related to the complexity of the activities performed by the profession.[6,23] This fact was also reported by research with 145 Nursing personnel, in which the low psychological level score indicated a direct association with psychological distress. Its origin was exhausting work hours, conflicting labor relations, anxiety, experiencing pain and suffering processes of the patient, and the quality of rest between shifts of activities.[2]

Investigation in five municipalities in the *Estado da Bahia* in 2012 with 720 health professionals identified that mental health problems affected one in five employees.[15] This result corroborates other research by indicating that mental illness can be related to the nature of work and compromise the WA. A survey conducted in 2015 reported that in the processes of time off work resulting from mental disorders and occupational stressors, depressive episodes accounted for 40.4%, followed by 19.8% with other anxiety disorders.[23]

Thus, it is verified that the mental health of the worker results from the various types of suffering resulting from activities and the work environment, such as harassment, stress, professional exhaustion, anxiety, mental overload, among others. These are the main factors that contribute to the decline of WA, increased vulnerability to increased accidents, sick leave and absenteeism.[4,16,23,24.]

In view of the impacts that damage to WA has on the life of employees, it is suggested that preventive measures be taken to recover and maintain the ability to work at an organizational and individual level, based on professional and institutional characteristics allied to work contexts and in which they are inserted. Thus, these measures can contribute as benefits in the WA of these workers.[9,17,18]

CONCLUSION

The Nursing professionals' WA assessment showed that most have "good work ability", obtaining a score close to 40 points in the WAI score. The results identified that age and mental resources were the main statistically significant factors that directly affected the WA of nurses, Nursing technicians and assistants, revealing the need for care actions that address these and other issues.

The WAI indicates that quantifying work ability becomes a way of signaling the need for differentiated health care modalities of the employee. This process highlights the need for investment in the workplace itself, such as places to rest, self-care activities and adequate staffing. These are some of the health care actions that can contribute to the health and ability of the Nursing staff to work.

Interpreting the measurement of WA among the personnel helps guide prevention, maintenance and preservation of work ability, providing healthy chronological and functional aging.

Although the research results are significant, some limitations were found in this study. There was a need for future studies to expand the sample and compare the WAIs

of employees from different hospitals, such as private ones; or emergency units.

The contribution of this study lies in the possibility of assisting in the elaboration of subsidies for integrated and integral interventions aimed at the health care of the worker and fostering the deepening of new studies in the field of worker health.

REFERENCES

1. Cossi MS, Costa RRO, Medeiros SM, Menezes RMP. A capacidade para o trabalho da equipe de enfermagem inserida no ambiente hospitalar. Rev Atenção Saúde 2015[cited 2018 Nov 23];13(43):5-9. Available from: http://seer.uscs.edu.br/index.php/revista_ciencias_saude/article/view/2676/pdf_1
2. Magnago TSBS, Prochnow A, Urbanetto JS, Greco PBT, Beltrame M, Luz EMF. Relationship between work ability in Nursing and minor psychological disorders. Texto Contexto Enferm. 2015[cited 2018 Nov 23];24(2):362-70. Available from: http://dx.doi.org/10.1590/0104-07072015002580013
3. Amaral JF, Ribeiro JP, Paixão DX. Qualidade de vida no trabalho dos profissionais de enfermagem em ambiente hospitalar: uma revisão integrativa. Espaço Saúde. 2015[cited 2019 July 05];16(1):66-74. Available from: http://dx.doi.org/10.22421/1517-7130.2015v16n1p66
4. Martinez MC, Latorre MRDO, Fischer FM. Validade e confiabilidade da versão brasileira do Índice de Capacidade para o Trabalho. Rev Saúde Pública. 2009[cited 2018 Nov 23];43(3):525-32. Available from: http://www.scielo.br/pdf/rsp/v43n3/140.pdf
5. Ferreira NN, Lucca SR. Síndrome de burnout em técnicos de enfermagem de um hospital público do Estado de São Paulo. Rev Bras Epidemiol. 2015[cited 2018 Nov 23];18(1):68-79. Available from: http://dx.doi.org/10.1590/1980-5497201500010006
6. Queiroz DL, Souza JC. Qualidade de vida e capacidade para o trabalho de profissionais de enfermagem. Psicologo Inform. 2012[cited 2018 Nov 23];16(16):103-26. Available from: https://www.metodista.br/revistas/revistas-ims/index.php/PINFOR/article/viewFile/3999/3478
7. Pettersen RS, Marziale MHP. Análise da capacidade no trabalho e estresse entre profissionais de enfermagem com distúrbios osteomusculares. Rev Gaúcha Enferm. 2017[cited 2018 Nov 23];38(3):671-84. Available from: http://www.scielo.br/pdf/rgenf/v38n3/0102-6933-rgenf-38-3-e67184.pdf
8. Silva RRC, Xavier Junior AFS, Maria RAR, Lima AF. Índice de capacidade para o trabalho em funcionários de um laboratório da cidade de Maceió, Alagoas. Cient Ciênc Biol Saúde. 2016[cited 2018 Nov 23];3(3):13-24. Available from: https://periodicos.Septedu.br/index.php/fitsbiosaude/article/view/2695
9. Godinho MR, Ferreira AP, Fayer VA, Bonfatt i RJ, Greco, RM. Capacidade para o trabalho e fatores associados em profissionais no Brasil. Rev Bras Med Trab. 2017[cited 2018 Nov 23];15(1):88-100. Available from: https://www.researchgate.net/publication/315945615_Capacidade_para_o_trabalho_e_fatores_associados_em_profissionais_no_Brasil
10. Tuomi K, Ilmarinen J, Katajarinne L, Tulkki A. Índice de capacidade para o trabalho. São Carlos: UFSCar; 2005.
11. Tuomi K, Ilmarine J, Jahkola A, Katajarinne L, Tulkki A. Índice de capacidade para o trabalho. São Carlos: UFSCar; 2010.
12. Silva Junior SHA, Vasconcelos AGG, Griep RH, Rotenberg L. Confiabilidade teste-reteste do Índice de Capacidade para o Trabalho (ICT) em trabalhadores de enfermagem. Rev Bras Epidemiol. 2013[cited 2018 Nov 23];16(1):202-9. Available from: http://www.scielo.br/pdf/rbepid/v16n1/1415-790X-rbepid-16-01-0202.pdf
13. Cordeiro TMC, Araújo TM. Prevalência da capacidade para o trabalho inadequada entre trabalhadores de enfermagem da atenção básica à saúde. Rev Bras Med Trab. 2017[cited 2018 Nov 23];15(2):150-7. Available from: http://dx.doi.org/10.5327/z1679443520177004
14. Souza DBO, Martins LV, Marcolino AM, Barbosa RI, Tamanini G, Fonseca MCR. Capacidade para o trabalho e sintomas osteomusculares em trabalhadores de um hospital público. Fisioter Pesq. 2015[cited 2018 Nov 23];22(2):182-90. Available from: http://www.scielo.br/pdf/fp/v22n2/2316-9117-fp-22-02-00182.pdf
15. Araujo TM, Mattos AIS, Almeida MMG, Santos BO. Aspectos psicossociais do trabalho e transtornos mentais comuns entre trabalhadores da saúde: contribuições da análise de modelos combinados. Rev Bras Epidemiol. 2016[cited 2018 Nov 23];19(3):645-57. Available from: http://dx.doi.org/10.1590/1980-5497201600030014
16. Martinez MC, Latorre MRDO, Fisher FM. Estressores afetando a capacidade para o trabalho em diferentes grupos etários na Enfermagem: seguimento de 2 anos. Ciênc Saúde Colet. 2017[cited 2018 Nov 23];22(5):1589-600. Available from: http://dx.doi.org/10.1590/1413-81232017225.09682015
17. Amorim JSC, Mesas AE, Trelha CS. Fatores associados à ótima capacidade para o trabalho em servidores idosos de uma universidade no Sul do Brasil. Rev Bras Saúde Ocup. 2018[cited 2018 Nov 23];43(15):1-12. Available from: http://dx.doi.org/10.1590/2317-6369000016816
18. Oliveira Junior PC. Índice de Capacidade para o Trabalho (ICT): uma avaliação da Capacidade laboral dos profissionais de enfermagem Portadores de doenças crônicas não transmissíveis [dissertação]. Uberlândia: Universidade Federal de Uberlândia; 2018. Available from: https://repositorio.ufu.br/handle/123456789/21504
19. Martinez MC, Latorre MRDO. Fatores associados à capacidade para o trabalho de trabalhadores do Setor Elétrico. Cad Saúde Pública. 2009[cited 2018 Nov 23];25(4):761-72. Available from: http://www.scielo.br/pdf/csp/v25n4/07.pdf
20. Amorim JSC, Trelha CS. Capacidade funcional associada à capacidade para o trabalho em servidores idosos universitários. Fisioter Mov 2017[cited 2018 Nov 23];30(4):681-90. Available from: http://www.scielo.br/pdf/fm/v30n4/1980-5918-fm-30-04-681.pdf
21. Hilleshein EF, Lautert L. Capacidade para o trabalho, características sociodemográfias e laborais de enfermeiros de um hospital universitário. Rev Latino-Am Enferm. 2012[cited 2018 Nov 23];20(3):1-8. Available from: http://www.scielo.br/pdf/rlae/v20n3/pt_a13v20n3.pdf
22. Pettersen RS, Marziale MHP. Análise da capacidade no trabalho e estresse entre profissionais de enfermagem com distúrbios osteomusculares. Rev Gaúcha Enferm. 2017[cited 2018 Nov 23];38(3):671-84. Available from: http://dx.doi.org/10.1590/19831447.2017.03.67184
23. Silva RRC, Xavier Junior AFS, Maria RAR, Lima AF. Índice de Capacidade para o Trabalho em funcionários de um laboratório da cidade de Maceió, Alagoas. Cient Ciênc Biol Saúde. 2016[cited 2018 Nov 23];3(3):13-24. Available from: https://periodicos.Septedu.br/index.php/fitsbiosaude/article/view/2695
24. Leão LHC, Gomez CM. A questão da saúde mental na vigilância em saúde do trabalhador. Ciênc Saúde Colet. 2014[cited 2018 Nov 23];19(12):4649-58. Available from: http://www.scielo.br/pdf/csc/v19n12/pt_1413-8123-csc-19-12-04649.pdf