

INTEGRATIVE REVIEW ARTICLE

CAPACITY INDEX FOR WORK AND THE NURSING TEAM ÍNDICE DE CAPACIDADE PARA O TRABALHO E A EQUIPE DE ENFERMAGEM ÍNDICE DE CAPACIDAD PARA EL TRABAJO Y EL EQUIPO DE ENFERMERÍA

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ABSTRACT

Objective: to analyze the articles that used the Work Ability Index (WAI) in order to identify the main factors that relate to the work capacity of Nursing professionals. *Method*: this is a descriptive bibliographical study, of the integrative review type. The MEDLINE databases were searched through PUBMED, LILACS, the SciELO Virtual Library and the Capes Periodicals portal. The original works produced in the last five years in the English, Portuguese and Spanish languages, available free of charge and online, have been included. Results were presented in the form of tables. *Results:* it is pointed out that the final sample resulted in 12 articles, of which three categories emerged: Workload ratio; Mental Overload and Association of Chronic Diseases. *Conclusion:* it is evident that workload, mental overload and musculoskeletal diseases are the main factors that interfere in the ability to work and its loss, besides being fundamental determinants for the genesis of ergonomic diseases. Health actions are necessary that help in the development of strategies in order to prevent the loss of the capacity to work in the different contexts in which Nursing is inserted. *Descriptors:* Work Capacity Evaluation; Nursing Team; Workers; Occupational Health; Nursing Research; Working Conditions.

RESUMO

Objetivo: analisar os artigos que utilizaram o Índice de Capacidade para o Trabalho (ICT) a fim de se identificarem os principais fatores que se relacionam com a capacidade para o trabalho dos profissionais de Enfermagem. Método: trata-se de um estudo bibliográfico, descritivo, do tipo revisão integrativa. Realizou-se a busca nas bases de dados MEDLINE via PUBMED, LILACS, na Biblioteca Virtual SciELO e no portal de Periódicos Capes. Incluíram-se os trabalhos originais na íntegra, produzidos nos últimos cinco anos, nos idiomas inglês, português e espanhol, disponíveis de forma gratuita e on-line. Apresentaram-se os resultados em forma de tabelas. Resultados: aponta-se que a amostra final resultou em 12 artigos, dos quais emergiram três categorias: Relação da carga horária de trabalho; Sobrecarga mental e Associação das doenças crônicas. Conclusão: evidencia-se que a carga horária de trabalho, a sobrecarga mental e as doenças osteomusculares são os principais fatores que interferem na capacidade para o trabalho e sua perda, além de serem determinantes fundamentais para a gênese de doenças ergonômicas. Fazem-se necessárias ações em saúde que auxiliem no desenvolvimento de estratégias a fim de se prevenir a perda da capacidade para o trabalho frente aos diversos contextos em que a Enfermagem está inserida. Descritores: Avaliação da capacidade de trabalho; Equipe de Enfermagem; Trabalhadores; Saúde do Trabalhador; Pesquisa em Enfermagem; Condições de Trabalho.

RESUMEN

Objetivo: analizar los artículos que utilizaron el Índice de Capacidad para el Trabajo (ICT) a fin de identificar los principales factores que se relacionan con la capacidad para el trabajo de los profesionales de Enfermería. Método: se trata de un estudio bibliográfico, descriptivo, del tipo revisión integrativa. Se realizó la búsqueda en las bases de datos MEDLINE vía PUBMED, LILACS, en la Biblioteca Virtual SciELO y en el portal de Periódicos Capes. Se incluyó obras originales en su totalidad, producidos en los últimos cinco años, en inglés, portugués y español, disponibles de forma gratuita y en línea. Se presentaron los resultados en forma de tablas. Resultados: se señala que la muestra final resultó en 12 artículos, de los cuales surgieron tres categorías: Relación de la carga horaria de trabajo; Sobrecarga mental y Asociación de las enfermedades crónicas. Conclusión: se evidencia que la carga horaria de trabajo, la sobrecarga mental y las enfermedades osteomusculares son los principales factores que interfieren en la capacidad para el trabajo y su pérdida, además de ser determinantes fundamentales para la génesis de enfermedades ergonómicas. Se hacen necesarias acciones en salud que ayuden en el desarrollo de estrategias a fin de prevenir la pérdida de la capacidad para el trabajo frente a los diversos contextos en que la Enfermería está inserta. Descriptores: Evaluación de Capacidad de Trabajo; Grupo de Enfermería; Trabajadores; Salud Laboral; Investigación en Enfemería; Condiciones de Trabajo.

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INTRODUCTION

It is known that the world of work in contemporary society, in the last decades, has witnessed profound changes, marked by the processes of globalization, new technologies and management methods. It is understood that, in face of these changes, the search for an adequate work environment and the quality of life has become progressive, being identified through the new relationships established between the man, the labor and the capacity for the work. 2

The term capacity for work originated from the concept of "wear and tear stress",³ so that this wear is configured as a result of the accumulation of physical and mental loads from work. As the work becomes more demanding to the professional, the paradox between balance and fatigue in a psychic and physical overload can result, and these internal and external demands contribute to changes in work capacity.⁴

It is evaluated that the work capacity of health professionals demands a greater physical and mental involvement due to the diverse requirements of the profession, and may undergo changes over time. Physiological, psychological and behavioral responses are triggered by functional exhaustion, increasing the propensity to decrease the capacity for work and the appearance of diseases, thus compromising the health and quality of life of the worker.

In this context, it is important to note that the Nursing team represents the largest workforce in health environments, being composed of nurses, technicians and auxiliaries, who require multiple skills, such as flexibility, versatility and multifunctionality, in order to fulfill the multiplicity and complexity of attributions and activities assigned to them daily in these spaces.⁶

However, it should be noted that the changes and demands of the Nursing team's work context directly interfere in the health of these professionals, culminating in the commitment to work capacity and greater absenteeism than other professionals. In addition to these transformations, it can be seen that the function, the working day, the age and the context can be triggers that affect the Work Ability Index (WAI), pointing to the need to adopt measures that minimize the effects these and other variables on the ability to work.⁷

It is therefore considered that the instruments that allow understanding and stimulate self-care and maintenance of the capacity for work are fundamental to the health of the worker. It is pointed out that the instrument that evaluates the capacity for work, known as WAI, occurred in the 80's and 90's in Finland, based on studies that evaluated the capacity for work, based on the theory of stress and wear.⁷

It is known that, in Brazil, the instrument was translated in 2005 and validated.⁷ It is currently presented as an evaluation protocol for health and work capacity, based on the perception of the worker himself, becoming a fundamental tool able to assist workers and managers in caring for the occupational health of the professional.⁴

In view of the above, it is necessary to have a more in-depth knowledge about the different conditions that affect the work capacity of Nursing professionals, in order to identify, intervene and promote an organizational change and health in these spaces of work. The objective of this study was to analyze the articles that used the instrument in order to identify the main factors that are directly and indirectly related to the nursing professionals' work capacity.

OBJECTIVE

• To analyze the articles that used the Work Ability Index (WAI) in order to identify the main factors that relate to the work capacity of Nursing professionals.

METHOD

It is an integrative review, which allows synthesizing the various studies already produced on this topic. This study was based on the following guiding question: "What are the main factors that impact the nursing professional's ability to work, in face of the daily activities developed in the different contexts of health services, and which can be identified through WAI?".

The methodological design was elaborated through the six stages of the integrative review: identification of the theme; establishment of inclusion and exclusion criteria for the selection of samples; categorization of studies; analysis of studies; interpretation of results; presentation and synthesis of results.⁸

It is pointed out that the identification of the theme arose from the interest in investigating the assessment of the capacity for work among Nursing professionals in the different contexts in which this profession is inserted, as well as the impacts caused by the work activities in the capacity for the job.

For the selection of articles, national and international databases, including Latin American and Caribbean Literature in Health Sciences (LILACS), PubMed, Scientific Electronic Library Online (SciELO) and Capes Periodicals were used. A better search was made in the Virtual Health Library (VHL) of the controlled and uncontrolled health sciences descriptors (DeCS). In English, work capacity evaluation, Nursing and Work were found in Portuguese, evaluation of work capacity, Nursing and work. The survey was carried out in

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the databases between March and July 2018, in an adapted form. 9

The crosses were created in the Virtual Health Library (VHL) using the Boolean operator AND with the specific descriptors, aiming to refine the search in the literature, with the following crossings: work capacity evaluation and nursing; work capacity evaluation and work and nursing and work. The articles were selected, based on the results found, according to the filters and established criteria of inclusion and exclusion.

The following inclusion criteria were selected for the selection of articles: texts published between 2013 and 2018, in Portuguese, English and Spanish, available online free of charge and in full. As exclusion criteria, case-study studies, experience reports, theses and dissertations were considered as exclusion criteria. For the interpretation of the results, the relevant information of the articles selected in table 1, containing the variables authors, year and country of accomplishment and publication of the studies, title, methodological delineation, objectives and sample were extracted and arranged for the interpretation of results.

After the analysis of the studies, three categories were established to better understand the results arranged as follows: Workload and working hours; Mental overload of the professional and Relation of the development of illnesses and capacity for the work; In this way, these three aspects allowed to know and better clarify the relation of the main factors that relate to the capacity for the work of these professionals. It is argued that all this information aims to discuss and evaluate the research already done on the subject, and the final synthesis of the analysis of the studies allowed to consolidate the results found, as well as to better understand the theme proposed for the study, besides contributing to the and for society.

RESULTS

It is recorded, among the findings in the active search, that the first crosses in the Virtual Health Library (VHL) identified the total of 1951 articles; after the use of specific filters for the selection of studies (full text, available in the international and national databases, in English, Portuguese and Spanish, published in 2013 to 2018, evaluation of work capacity, worker health, Nursing, studies of cohort, human, adult), 63 studies were found, of which only 32 were initially selected for the analysis, available in the three databases used in the research: LILACS, Periodicals Capes and PubMed, with seven being duplicitous. After applying the exclusion criteria, reading the titles and objectives of the studies, 13 studies did not meet the selection criteria, leaving

only 12 papers that aimed to respond to the objectives of the research (Figures 1 and 2).

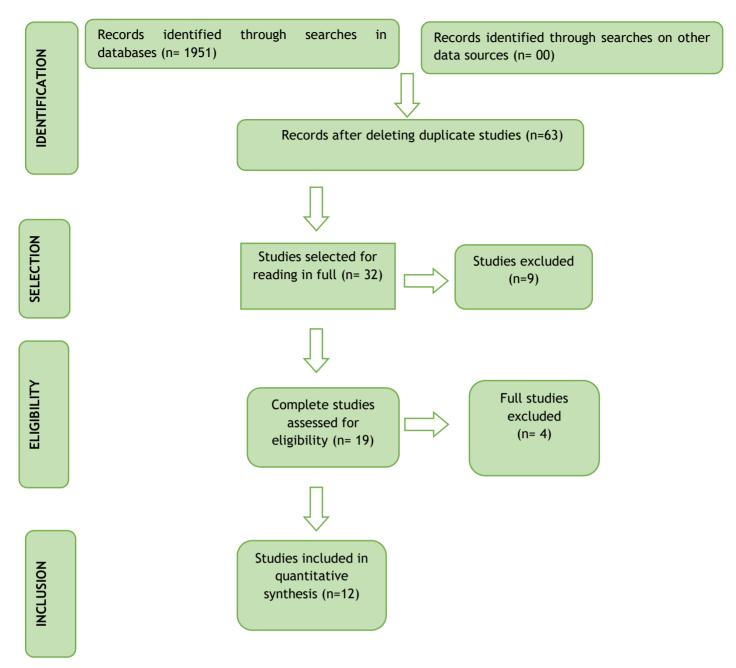


Figure 1. Flowchart of the selection of the studies found and selected. Uberlândia (MG), Brazil, 2018.

It should be noted that five (42%) were published in the PubMed database, four (33%) in the Capes periodicals and three (25%) in LILACS; three (25%) were descriptive cross-sectional, two (17%), transversal and two (17%), epidemiological cross-sectional, followed by 8.2% using the following methodological outlines: epidemiological descriptive cross-sectional observation; crosssectional study; descriptive cross-sectional analysis; cross-sectional randomized and crosssectional epidemiological descriptive.

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Authors	Year/Country	Title	Outline	Objectives	Sample
Magnago, Beck, Greco, Tavares, Prochnow, Silva, et al. ¹¹	2013. Brazil	Evaluation of the work capacity of the nurses in the emergency room	Cross-sectional study	Evaluation of the capacity of nurses to work in the emergency room	68
Silva, Araújo, Stival, Toledo, Burke, Carregaro, et al. ¹⁰	2017. Brasil	Musculoskeletal discomfort, ability to work and fatigue in nursing professionals working in a hospital environment	Cross-sectional study	To assess musculoskeletal discomfort, the ability to work and residual fatigue in nursing professionals working in a hospital environment.	110
Cordeiro, Araújo. ¹⁴	2017. Brazil	Prevalence of inadequate work capacity among nursing workers in basic health care	Epidemiological, observational, descriptive and cross-sectional study	Describe the prevalence and characteristics of the ability to the inadequate work among nursing workers in basic health care in the State of Bahia, Brazil.	929
Nery, Toledo, Oliveira Júnior, Taciro, Carregaro, et al. ²⁷	2013. Brazil	Analysis of related functional parameters to the occupational risk factors of the activity of ICU nurses	Descriptive and cross-sectional study	Assess the need for rest, the prevalence of musculoskeletal discomforts, the work capacity and physical effort of nurses of the Intensive Care Unit (ICU))	24
Petersen, Marziale. ²³	Brazil. 2017.	Analysis of work ability and stress among nursing professionals with musculoskeletal disorders	Descriptive, epidemiological and cross-sectional study	To characterize the sociodemographic aspects, the work capacity and the stress of the Nursing workers affected by musculoskeletal disorders and to analyze the association between musculoskeletal comorbidities, capacity, stress and social support.	214
Magnago, Prochnow, Urbanetto, Greco, Beltrame, Luz. ²¹	2015. Brazil	Relationship between work capacity in nursing and minor psychiatric disorders	Cross-sectional epidemiological study	To evaluate the association between minor psychiatric disorders and the reduction of work capacity in Nursing workers.	498
Prochnow, Magnago, Urbanetto, Beck, Lima, Greco. ²⁴	2013. Brazil	Ability to work in nursing: relationship with psychological demands and control over work	Cross-sectional epidemiological study	To evaluate the association between psychological demands, control over work and reduction of ability to work in Nursing workers	498
Reed, Prince, Pipe, Attallah, Adamo, Tulloch, et al. ¹⁹	2018. Canada	Influence of the workplace on physical activity and cardiometabolic health: Results of the multi-centre cross-sectional	Cross-sectional multicenter study	Assess the influence of the work environment on physical activity and the cardiometabolic health of	410

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		Champlain Nurses ' study		nurses	
Abbasi, Zakerian, Akbarzade, Dinarvand, Ghaljahi, Poursadeghiyan, et al. ²⁵	2017. Iran	Investigation of the Relationship between Work Ability and Work-related Quality of Life in Nurses	Descriptive and cross-sectional study	To investigate the association between work capacity and quality of life at work and determine the effective demographic and background variables among nurses.	750
Rostamabadi, Zamanian, Sedaghat. ²⁶	2017. Iran	Factors associated with work ability index (WAI) among intensive care units' (ICUs') nurses	Descriptive and cross-sectional study	To examine the association between Work Ability Index (WAI) and individual characterizations, workload, fatigue and diseases among intensive care unit nurses).	321
Abbasi, Zakerian, Kolahdouzi, Mehri, Akbarzadeh, Ebrahimi, et al. ¹⁸	2016. Iran.	Relationship between Work Ability Index and Cognitive Failure among Nurses	Descriptive, analytical and cross- sectional study	Investigate the relationship between the capacity to work index (IAO) and cognitive failures (CFs), as well as some factors that affect them, in nurses working in the ICU, CCU and emergency ward.	750
Nowrouzi, Lightfoot, Carter, Larivère, Rukholm, Gardner, et al. ¹²		Workplace System Factors of Obstetric Nurses in Nort heastern Ontario, Canada: Using a Work Disability Prevention App roach	Cross-sectional, randomized and stratified study	Examine the personal relationship of Nursing and the workplace, system factors (inability to work) and scores on the ability to work index in Ontario, Canada.	111

Figure 3. Synthesis of the studies included in the integrative review according to the assessment of the capacity to work in the Nursing team. Uberlândia (MG), Brazil, 2018.

Among the analyzed studies, 39% were published in 2017, followed by 31% in 2013, 15% in 2015 and 8% in 2016 and 2018, respectively; eight (62%) studies were conducted in Brazil, three (23%) in the Middle East and two (15%) in Canada. It is pointed out that 100% of the studies used the WAI instrument to measure the capacity for work, and some of these studies associated other assessment instruments. It is recorded that only two studies (17%) presented samples smaller than 100 participants, in contrast, the other ten (83%) had samples larger than 100 professionals. There were only one (8%) of the professionals in primary care, while the other 11 (92%) were in hospital care; with regard to the language of disclosure, 62% were published in Portuguese and 38% in English.

DISCUSSION

1. Ratio of workload / work day and ability to work

Five studies were selected in this category that addressed the work day and its repercussions on the capacity to work in the Nursing team. It has been shown in some studies that, on average, this professional category have working hours varying between 36 and 40 hours a week in different health establishments, alternating between full-time and part-time work. In a study carried out with 110 Nursing professionals from 20 sectors of a public hospital in Brasília, the average hourly workload in the hospital service was 38.9 ± 8.6 hours per week, regardless of the professional function. $^{10-2}$

It was revealed in another survey conducted in three public hospitals in São Paulo between 2012 and 2013 that Nursing workers performed weekly workdays of more than 44 hours, this being a factor that was directly related to the increase in absenteeism, leave and leave.¹³

It was also verified that a good part of the Nursing professionals is composed of women, characterizing a feminine predominance of the profession. It is observed that many of these women, in addition to exercising paid professional activity, associate domestic activities in their daily routine, these services being considered important factors for the reduction of the capacity to work among this public ^{14,15}. On the other hand, it is emphasized in studies that the multiple roles exercised daily by women predispose this group to extra limits, in addition to the hours and the work day. It is thus assessed that this public is more prone to direct impacts on the ability to work due to the repercussions of the overload of domestic services and the professional work environment.¹⁴⁻

It is argued, therefore, that the studies present evidence that the domestic work culture associated with the daily life of the working woman still persists, which, although it is in the labor market, still assumes the responsibility of being the caregiver of the home and of motherhood , something configured as an extension of working life.¹⁷

It was also shown, in relation to the aspects related to the working day of this professional category, in a survey conducted in some hospitals in the city of Tehran, Iran, in the year 2014, with 750 Nursing professionals, that the overtime after long and long work shifts is a crucial factor for the development of chronic diseases, as well as reflecting in a non-beneficial way on the mental and physical resources of professionals. 18-9 It should be noted that, in the world of work, high competitiveness and high levels of demand and productivity lead to significant changes in the health-disease process; in addition, the various risks to which these professionals are exposed during the execution of their work can produce accidents, cause the development of occupational diseases and, consequently, interfere in the capacity to work.²⁰

This conclusion is corroborated in other studies, emphasizing the frequent alternations of work shifts between these professionals, since the activities performed, because they are different, demand new physical and mental requirements, and may compromise the capacity for work among Nursing professionals. 12,15 This explained by the deterioration of Nursing workplaces, from the high demand to the insufficiency of professionals, since these scenarios result in redistribution of services and professional overload; therefore, it is evident that the long hours of work become determining factors that can intensify the processes of physical and mental exhaustion by the exacerbated use of the work force and, consequently, affect the ability to work. 13,15

2. Mental overload of the nursing professional and the ability to work

In this category, we selected seven articles that dealt with the aspects of mental overload generated by professional activities and their relation with the capacity to work. It is understood that the high demand of the Nursing services contributes to a greater propensity, not only to the physical, as well as to the mental. It is assessed that organizational stress situations and risk activities within the work environment, such as biological, physical, chemical and psychological risk, among others, directly affect the mental health of the professional and may reflect negatively on the WAI and decrease ability to work.²¹

It is known that the Nursing team, in their daily life, lives directly with pain, suffering and death, something that becomes favorable to the development of comorbidities and psychiatric

disorders. It is observed that this fact can trigger a constant state of stress and, as a result, the emergence of diseases of occupational character, as well as negative reflexes in the psychosocial well-being, especially, when the individual is exhausted to respond to the demands of the work of healthy shape. ^{20,22}

It should be emphasized that mental wear, associated to other factors, such as the working conditions of the profession, interferes with the quality of care provided to the client, as well as being a risk factor for absenteeism and even abandonment of the profession due to to the impairment of the professional's ability to work. ²⁰ In the findings of some studies, nursing professionals perceive that, according to the type of service provided, the daily activities of the profession require complex mental abilities, considering that, in addition to care, management services and others, which are also performed by these professionals, increase mental overload. ²³⁻⁴

On the other hand, it should be pointed out that, even if the demand for services directly affects the psychic state of the professional, it does not always reflect negatively on the capacity for work. It was revealed in a study carried out between 2002 and 2012, in the State of Bahia, in the basic health network, with 929 Nursing workers, who, when asked about mental resources, more than 70% of professionals had appreciation for their daily activities , they remained active and alert, and, almost always, they hoped for the future. The same was observed in another study in which, when assessing the WAI in relation to the requirements, more than 60% of the participants classified as good and only 3% as low. Thus, it is verified that the adequate mental resources, in face of the demands of the work, contribute to the increase in the work capacity of the professional. 11,14,23

It is concluded, therefore, that the better the mental balance that the professional has in relation to the demands of the work activity, the lower the chances of the development of cognitive failures, especially those of memory, states of depression and other comorbidities.^{18,25}

3. Association of Chronic Diseases and Ability to Work

Six articles were chosen that addressed the relationship between chronic diseases and the capacity to work among Nursing professionals. It is evidenced that chronic diseases, especially those related to musculoskeletal problems, digestive diseases and skin diseases, are the main determinants that incapacitate the professional for work and are directly related to absenteeism in the work environment.²⁶

In a study carried out with 214 nursing professionals in two hospitals in Manaus (AM), in

the year 2015, participants reported that they had musculoskeletal pain with or comorbidities of musculoskeletal disorders; of these, 55.1% reported the association of at least one musculoskeletal comorbidity associated with musculoskeletal pain. It is pointed out that due to the complex dynamics of the Nursing services in hospital spaces, such musculoskeletal comorbidities are mainly related to inadequate ergonomic and postural factors, important propensors to the development of health problems in the life of professionals. 20,23

The same was observed in two other studies carried out in Brazil, where one showed the prevalence of 75% of musculoskeletal discomfort in nurses who worked in intensive care units; therefore, another study concluded that 59.3% had musculoskeletal diseases and other comorbidities, such as cardiorespiratory and endocrine problems, being highlighted as factors predisposing to decreased work capacity, withdrawal and absenteeism. 14,27

It was revealed, in a study carried out in the city of Goiânia (GO), between the years of 2008 and 2012, through the analysis of 435 nursing dossiers, that, among the main reasons for leaving work, those related to the system osteomuscular, with 19.70%, followed by mental and behavioral disorders, with 18.04%. It should be noted that this group of diseases is what most represents the reasons for leaving, attested and, in more serious cases, the definitive removal of profession;^{28,20} however, another concluded that there is not always a significant relationship between the WAI and the existence of musculoskeletal comorbidities, even in the cases of those professionals who have some discomfort related to this comorbidity and who were classified as low capacity for work.¹⁰

The same was demonstrated in a study carried out with 68 Nursing professionals, where more than 30% of the interviewees said they did not have impediments to the accomplishment of the labor activities; however, about 30% of the participants perceived the need to slow down or change their resources for work, and 28.6% stated that they had the capacity to carry out their work; thus, the comorbidities of these professionals did not negatively affect the ability to work.¹¹

Therefore, it is perceived, considering the characteristics of the daily activities developed by the Nursing team, that these professionals are subject to develop diseases related to ergonomic factors, being necessary the adaptation of the work environment, in order to minimize the risks of sickness, since such an event has a direct impact on the ability to work.²²

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CONCLUSION

It was verified, through the studies that have used the WAI, that, among the several factors that interfere in the work capacity of the professional category of Nursing, the workload / work day, mental overload and associated musculoskeletal diseases to other comorbidities, were the main findings of the research.

When considering the weekly workload, it was observed that the majority of those surveyed worked on average 36 to 40 hours a week, with some reaching higher margins due to the organization of the service or personal need. Thus, the exacerbated use of the work force and the conditions of the working environment that are determinant for the genesis of ergonomic diseases and, consequently, can diminish the capacity for the work of these professionals.

With regard to mental demands, it is evident that the high demand of Nursing services and their demands can overwhelm the mental state and have an impact on current and future performance, contributing to the development of psychic diseases. It is also pointed out that other factors, such as organizational stress and risk elements of the workplace itself, become the main causes for the impairment of cognitive and memory functions, which directly affect the ability to work.

The existence of at least one disease of this type is highlighted in relation to the association between chronic diseases and the ability to work among Nursing workers. It is verified the prevalence of musculoskeletal diseases, especially those related to the musculoskeletal system. It is noticed that the development of comorbidities is triggered by the various work processes, including ergonomic and postural aspects, and by the various daily requirements, regarding Nursing activities; Therefore, in view of the main factors that affect the WAI of the Nursing team, the use of the WAI instrument revealed the direct relationship between the decline in capacity for work and workload, mental overload and chronic diseases. It is understood, based on the results obtained in the various studies, the need for health actions that help in the development of strategies that prevent the loss of capacity in the different contexts in which Nursing is inserted.

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