



Review Article

LIMITATIONS AND CONSEQUENCES CAUSED BY WORK-RELATED DISEASES IN THE WORKER'S LIVES

LIMITAÇÕES E CONSEQUÊNCIAS NA VIDA DO TRABALHADOR OCASIONADAS POR DOENÇAS RELACIONADAS AO TRABALHO

LIMITACIONES Y CONSECUENCIAS EN LA VIDA DEL TRABAJADOR DEBIDO A LAS ENFERMEDADES RELACIONADAS CON EL TRABAJO

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This study aimed to investigate the impacts of work-related diseases in the worker's lives, as well as analyze the contributions of studies to the nursing science, especially in the area of occupational health nursing. It is an integrative review with the following guiding question: What are the limitations and consequences caused by cumulative trauma disorders (CTD) in the worker's lives reported in the nursing scientific production during the last five years (2006 to 2010). The descriptors used were: Cumulative Trauma Disorders and Occupational Health. We selected 14 articles and these were grouped according to common purposes, main limitations and consequences of CTD, and relevant information to contributions of studies in the area of Occupational Health Nursing. We concluded that the scientific production on this subject brings few effective contributions, and that further studies are needed to subsidize care strategies aimed at promoting health and quality of life of these workers.

Descriptors: Occupational Health Nursing; Cumulative Trauma Disorders; Occupational Health; Workers.

Objetivou-se averiguar na literatura o impacto das doenças relacionadas ao trabalho sobre a vida dos trabalhadores, bem como analisar as contribuições dos estudos para a ciência da enfermagem, em especial para a área da enfermagem do trabalho. Trata-se de revisão integrativa com a seguinte questão norteadora: quais as limitações e consequências causadas por transtornos traumáticos cumulativos na vida de trabalhadores, relatadas na produção científica da enfermagem nos últimos cinco anos (2006 a 2010). Utilizaram-se como descritores: Saúde Ocupacional e Saúde do Trabalhador. Foram selecionados 14 trabalhos, agrupados segundo objetivos em comum, principais limitações e consequências ocasionadas, e informações pertinentes a contribuições dos estudos para a área da Enfermagem do Trabalho. Concluiu-se que as produções científicas sobre o tema trazem poucas contribuições efetivas, e que novos estudos são necessários para subsidiar estratégias de atenção voltadas à promoção da saúde e qualidade de vida destes trabalhadores.

Descritores: Enfermagem do Trabalho; Transtornos Traumáticos Cumulativos; Saúde do Trabalhador; Trabalhadores.

El objetivo fue comprobar en la literatura el impacto de las enfermedades profesionales en la vida de los trabajadores y analizar las contribuciones de los estudios para la ciencia de enfermería, en especial para enfermería del trabajo. Revisión integradora con la siguiente pregunta: cuáles son las limitaciones y consecuencias causadas por trastornos de trauma acumulativo en la vida de los trabajadores, en la literatura científica de enfermería en los últimos cinco años (2006 a 2010). Se utilizaron como descriptores: Salud Ocupacional y Salud Ocupacional del Trabajador. Fueron seleccionados 14 trabajos que se agruparon según objetivos comunes, principales limitaciones y consecuencias causadas e informaciones que se pueden traducir en contribuciones para la Enfermería del Trabajo. La producción científica sobre el tema trae pocas contribuciones efectivas, y que se necesitan más estudios para subsidiar a las estrategias de atención dirigidas a promover la salud y la calidad de vida de estos trabajadores.

Descritores: Enfermería del Trabajo; Trastornos de Traumas Acumulados; Salud Laboral; Trabajadores.

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INTRODUCTION

Work is one of the fundamental roles in human life, given its positive effects regarding the satisfaction of basic needs, creation of bonds and collaboration among workers. However, in performing this role, men end up being constantly exposed to the risks present in the workplace, which can directly interfere with their physical and psychological health⁽¹⁾.

The intensification of the production method, long working hours without taking a break, repetitive work and the use of vibrating tools, aggravated by work overload and constant pressure, have led to the increase of work-related diseases, at the same time it creates conditions for greater likelihood of accidents that cause temporary or permanent disability, thus demonstrating the causal link between health and work⁽²⁻³⁾.

Among the diseases that affect this population, we highlight the constant increase of Repetitive Strain Injury (RSI), also known in Brazil as Work-Related Musculoskeletal Disorders (WMSDs) and Cumulative Trauma Disorder (CTD). These represent the most common category of occupational diseases, and can affect workers from several branches of economic activity, professional occupations and educational levels.

RSI/WMSDs are diseases that have chronic pain and wear of musculoskeletal structures as common characteristics, predominantly affecting the upper limbs, and emerging as a result of repeating the same movement at high frequency⁽⁴⁾.

This is a work-related phenomenon caused by excessive use of force, assigned to the musculoskeletal system, and lack of time for recovery. It is characterized by the occurrence of various symptoms (pain, paresthesia, heaviness and fatigue) of specious appearance, most commonly affecting the upper limbs. They are often considered causes of temporary or permanent work disability⁽⁵⁾.

The history of repetitive work is long, with reports dating back nearly two centuries ago. In 1891, Fritz de Quervain, observing washerwomen with frequent complaints of pain, associated tenosynovitis to the activity of washing clothes, calling this disease "washerwoman's sprain". Japan was one of the first countries to give appropriate importance to this category of diseases, recognized in the 1960s, which led to the creation of the Committee of the Japanese Association of Occupational Health⁽⁶⁾.

In Brazil, this type of health problem was initially observed in the 1980s among professionals that worked using computer, being named as the "disease of typists". Only in 1991 it was recognized as an occupational disease, by the Forensic Science Standards of the National Institute of Social Security (INSS), being considered as a public health problem⁽⁷⁾.

Besides the possibility of causing limitations and inability to work, the disease can lead to the impairment of daily activities, including implications for the performance of household and leisure activities. Not rarely, it ends up causing feelings of frustration and uselessness in affected individuals. These feelings are also followed by pain, insomnia, mood swings, low self-esteem, depression, anxiety, and professional devaluation, among others.

In this context, occupational health nursing plays a key role in the lives of these workers, by better understanding the biopsychosocial aspects related to the disease, assisting in the search for strategies that adapt the working conditions to the psychophysiological characteristics of workers, and establishing actions for injury prevention and health promotion among this clientele.

Knowing the limitations and consequences that work-related diseases cause in the workers' lives is essential for the performance of nursing and other

professionals that directly and indirectly deal with this share of the population. Such knowledge enables the decision making in order to mitigate problems, promote worker's wellbeing and at the same time contribute to the maintenance of an efficient performance and productive capacity of individuals.

For these reasons, this study aimed to investigate in the literature the impact of work-related diseases on the workers' lives, as well as to analyze the contributions of studies to the nursing science, particularly in the area of occupational health nursing.

METHOD

The study was an integrative review research, directed to works published in the last five years (2006 to 2010), and that were suitable to answer the following guiding question: What are the limitations and consequences caused by CTD in the workers' lives reported in the nursing scientific production in the last five years (2006-2010)? The intermediate question directed to the second objective of the study was: What are the contributions brought by the studies to the nursing science, particularly in the area of occupational health nursing?

The integrative review is a method that aims to systematically summarize the results obtained in researches on a particular topic, in order to contribute to the knowledge on this topic⁽⁸⁾.

In this type of review, some steps should be followed: (1) identification of the theme and selection of hypothesis or research question to develop the integrative review; (2) establishing inclusion and exclusion criteria of studies/sampling or literature search; (3) defining the information to be extracted from the selected studies/categorization of studies; (4) assessment of integrative studies included in the

integrative review; (5) interpreting the results; and (6) presenting the knowledge synthesis⁽⁹⁾.

For the selection of scientific works, we established the following inclusion criteria: productions that were published from January 2006 to December 2010, without language restrictions; and available online and indexed in the following databases: BDENF (Brazilian Bibliography of Nursing), LILACS (Latin-American and Caribbean System on Health Sciences Information), MEDLINE and SciELO (Scientific Electronic Library Online).

We chose this chronological cut (2006-2010) due to the increase of work-related diseases in recent years, verified in the professional practice of researchers in occupational health nursing. The only exclusion criterion that we established was that the articles were in the form of literature review.

The terms in the Health Sciences Descriptors (DeCS) used for the search process in this literature review were: Cumulative Trauma Disorders; and Occupational Health. We used the logical operator "OR" for tracking all works that presented at least one of the descriptors established, and for further refinement using the inclusion criteria. It is worth mentioning that, according to DeCS, the term CTD should be used instead of RSI/WMSDs in the search of scientific productions in databases. The search of publications was carried out in February and March 2011.

Through this search process, 71 articles were found, of which three were indexed in more than one database (LILACS and BDENF). In these specific cases, we proceeded to the exclusion of one of the entries to avoid data duplication.

Table 1 - Number of articles distributed among the selected databases (2006-2010).

Databases	Articles found	Articles selected
BDENF	17	1
Lilacs	46	11
Scielo	8	2
Medline	0	0
Total	71	14

In Table 1 we verify the number of articles found according to the descriptors and the number of selected articles that met the inclusion criteria, distributed among the selected databases from 2006 to 2010.

The process of search refinement included the analysis of all the abstracts of selected studies, in order to verify how many met the guiding question of the study and the above mentioned inclusion criteria. This procedure resulted in a total of 14 articles.

RESULTS

The 14 articles selected to integrate this study were encoded by the letter L (Literature) and by numbers (from 1 to 14), according to the reading order and exploration of these materials. This coding aimed to organize the results presentation of each article, facilitating the analysis and comparisons between them.

Regarding the year of publication, we found three publications in 2006 (L6, L7 and L9), four in 2007 (L2, L3, L13 and L14), two in 2008 (L11 and L12), three in 2009 (L4, L5 and L8) and two in 2010 (L1 and L10).

Based on this, we performed a thorough reading of the full-text articles selected, to verify if the contents actually contemplated the work objectives.

Regarding the analysis of the theme of the studies analyzed, these were grouped according to common goals, to the reported impacts on the workers' lives (in terms of the main limitations and consequences caused by CTD), and finally, according to information that could represent contributions to the field of Occupational Health Nursing.

As for the authors of selected articles, regarding their formation, three were produced by nurses (L2, L3 and L13), four by physiotherapists (L1, L4, L6 and L9), one by doctors (L5), one by psychologists (L7), one by nutritionist (L11), two by physiotherapists and nurses (L8 and L12), one by physiotherapists and doctors (L10), and one by a physical educator (L14). We identified a concentration of works produced exclusively by nurses in 2007; however such finding does not have a plausible justification.

	Title	Journal/Year
L1	Analysis of the limitations, strategies and perspectives of the workers with RSI/WRMD, participants of the PROFIT-LER Group: a case study	Ciênc Saúde Coletiva, 2010
L2	The experience of a woman working in nursing suffering from De Quervain's disease	Rev Latino-Am Enfermagem, 2007
L3	Worker's life before and after Repetitive Cumulative Trauma (RCT) and Osteomuscular Work-Related Disease (OWRD)	Rev Bras Enferm, 2007
L4	Disability, everyday life and subjectivity: the narrative of workers with RSI/WMSD	Interface – Comunic Saúde Educ, 2009
L5	RSI and voluntary dismissal planes: trajectories of pain and suffering among bank employees	Cad psicol soc trab, 2009
L6	Signification and (re) signification: the therapeutic itinerary of workers with RSIs/WMSDs	Dissertation – Salvador (BA). Instituto de Saúde Coletiva, Universidade Federal da Bahia. 2006.
L7	Work, exclusion, pain, suffering, and gender relations: a survey of female workers treated for repetitive strain injury at a public health clinic	Cad Saúde Pública, 2006
L8	Kinesiologic and symptomatologic evaluation of lower members in industrial dressmakers	Rev enferm UERJ, 2009
L9	Musculoskeletal symptoms in workers of a water supply and treatment company in the city of Londrina, Paraná State	Salusvita, 2006
L10	Working conditions and musculoskeletal pain among Brazilian pottery workers	Cad Saúde Pública, 2010
L11	Ergonomic intervention in a hospital food service in São Paulo and its effects on musculoskeletal symptom	Thesis - São Paulo, Universidade Estadual de São Paulo, 2008.
L12	Public officers' perceptions of work: related musculoskeletal disorder diagnosis	Fisioter Pesq, 2008
L13	The daily living experience of nursing woman-workers that display work related musculoskeletal disorders (WRMD) at optical heideggerian existential phenomenology	On-line braz j nurs, 2007
L14	Signs of musculoskeletal disorders in bus drivers and fare collectors	Rev Bras Cineantropom Desempenho, Hum 2007

Figure 1 - Selected articles for the integrative review (2006-2010).

Twelve of selected studies were scientific articles published in national and international journals, and two (L6 and L11) were postgraduate products (theses and dissertations). Regarding the type of research method used in the selected articles, we identified the prevalence of qualitative approach in eight productions (L2, L3, L4, L5, L7, L11, L12 and L13), followed by quantitative approach in four bibliographies (L8, L9, L10 and L14) and the qualitative and quantitative approach, present in two articles (L1 and L6).

All the studies were carried out in Brazil, the majority (7) coming from São Paulo State (L2, L5, L7, L8, L10, L11 and L13), followed by three conducted in Bahia State (L4, L6 and L14), one in Paraíba State (L1), one in Alagoas State (L3), one in Paraná State (L9) and one in Ceará State (L12).

Regarding the work contexts portrayed in the studies analyzed, we were able to identify several areas of professional performance: participants of the PROFIT-LER Group (developed by the Department of Physical Therapy, Universidade Federal da Paraíba); workers of Labour Justice (Courts of Labour Justice); employees of supply and sterilization center (hospital); workers of industry and trade; employees of a state bank; workers under the benefit of the Brazilian Social Security; industrial sewers; employees of water treatment company; industrial pottery workers; employees of hospital nutrition services; employees of a physiotherapy clinic; nursing workers; bus drivers and fare collectors.

Regarding the objectives of the study, the most frequent was: *"knowing the illness experience of patients with RSI/WMSDs, its determinants and consequences/impacts on everyday life and work in*

different production sectors". This objective, even though with variations in its original terms, was found in eight of the 14 articles (L1, L2, L3, L4, L5, L6, L7 and L12), totaling 57.14% of the sample analyzed.

Later, we verified as the second and last most frequent objective of the studies: "*verify symptoms of RSI/WMSDs and the prevalence of pain and other*

musculoskeletal symptoms in workers - implications for labor performance", present in six studies (L8, L9, L10, L11, L13 and L14).

With regard to the impacts of CTD on the workers' lives, we observed great diversity of manifestations, affecting various segments of life of affected individuals.

Physical
Difficulty in performing day to day tasks;
Discomfort, pain, swelling, numbness, tingling, nodules;
Trouble sleeping (sleeping position).
Psychosocial
Absenteeism and absence from work;
Feeling that they could never perform their profession again;
Loss of identity at work;
Depression, anxiety, anguish, irritability, bad-mood;
Normal life affected;
Impossibility of performing sports activities;
Impairment of personal care, and professional and household activities;
Embarrassment and humiliation at having to prove the disease to the National Social Security Institute;
Feelings of incapacity, uselessness, frustration, injustice, loss, guilt, low self-esteem, shame;
Discrimination and rejection for the labor market;
Professional devaluation;
Despair of having to work with pain;
Suffering regarding the assistance in health care services;
Loss of autonomy in decision making;
Concern for the production;
Relationship problems;
Job dissatisfaction and desire for changing function;
Professional disillusionment.

Figure 2 - Physical Limitations and Psychosocial Consequences caused by CTD. (2006-2010)

Regarding the contributions of publications for nursing science, and more specifically to the area of occupational health nursing, we identified four main approaches.

Most studies presented descriptive approach in the perspective of the subject with CTD, so that the main object of analysis in these studies was the impact of the disease on life and general health and work status of affected individuals (L2, L4, L5, L6, L10, L12 and L13). These articles were followed by descriptive studies

aimed to identify measures of health promotion in work contexts (L1, L7, L8 and L14); researches aimed to assess the structure and allocation of human resources, due to the limitations caused by CTD, as a way of promoting adaptation and preservation of worker's health (L9, L13 and L14); and finally, studies of preventive approach, addressing preventive measures and implementing actions to improve the health of workers with CTD (L3, L11 and L14). Two of the studies

analyzed had more than one thematic approach (L13 and L14).

DISCUSSION

In only one study (L8), the limitations of the CTD were not described, emphasizing only that painful sensations caused by WMSDs are capable of causing constraints and concerns among workers, without further detailing these repercussions.

It is fully known that pain constitutes a limiting process for workers, affecting both their professional and personal life⁽¹⁰⁾. We can notice in the studies found that physical limitations caused by the CTD interfere significantly with the lives of workers affected, hindering not only the performance of daily activities, but also the activities required for the development of their work.

Given this condition, it is essential to develop a more holistic view in the therapeutic approach with these individuals, in order to treat emotional issues, besides the physical pain; otherwise the psychological consequences may be intensified and strengthened⁽¹¹⁾.

It is also worth mentioning that in the works evaluated, besides the purely physical aspects of the disease, the psychosocial aspects that appear as a result of pains and limitations caused by CTD are in much greater number. In a study that addresses this issue⁽¹²⁾, it was verified that the psychological traumas are frequent findings as a consequence of RSI/WMSDs.

The psychosocial consequences greatly interfere in the lives of these workers, causing from work leave until the incidence of frustration and depression. In addition, workers still suffer prejudice, and not rarely are constrained by having to prove the existence of the disease to the company, the INSS, co-workers and even to their own family.

The fear of losing the job, mentioned in the articles, is of utmost importance, especially today, given the difficulty in finding another one. The need to keep the job brings with it the inability to propose changes in this

context, causing workers to undergo working conditions, often incompatible with health.

Furthermore, if the family providers find themselves unable to perform their profession, the family suffers doubly, by sharing the suffering of one of its members and due to the financial difficulties resulting from this situation. Thus, maintaining the economic standard and the status in society becomes significantly more difficult, aggravating the feeling of frustration and uselessness.

Unfortunately, the awareness regarding the limits of the human body, by workers and employers, happens through losses, reduced profits and suffering of workers⁽¹³⁾.

In addition to the impact of the disease on the individual and his family, CTD also brings consequences for the company where the employee works. These include problems such as absenteeism, occupational accidents, loss of productivity, work leave, high medical costs with treatment, among others, interfering significantly in production costs and quality⁽¹⁴⁾.

Only the article L3 makes no direct mention to the possible contributions to occupational health nursing, regarding measures that might reduce inadequacies of work environments, encouraging the prevention of RSI/WMSDs.

The article contributes to the proposal of actions such as physical, electrical and ergonomic improvement of environments; practice of oriented labor gymnastics exclusively focused on prevention of RSI/WMSDs; identification and transfer of the workplace; besides emphasizing the importance of an awareness policy directed to managers; as well as an awareness policy directed to the employees themselves. In this last item, we discuss strategies aimed at heads and directors, seeking to engage them with the implementation of a program of RSI/WMSDs prevention.

In addition, some of the studies analyzed (L1, L8, L9 and L14) report positive experiences able to support

the implementation of preventive and education programs for occupational health nursing. As described in these sources, obtaining more knowledge about the disease makes workers understand the disease as a whole, in order to develop strategies seeking to reduce the physical and psychological symptoms, and especially regarding the conducts that minimize the progression of pain conditions.

It is also worth mentioning the need for a multidisciplinary action in the assistance for this disease, so that the group of professionals from various fields of knowledge, with their expertise, can promote a collaborative and collective work that favors the employees, in order to mitigate the individual damages and impacts of CTD for the community.

Another aspect approached by this study was the role of self-help groups formed by the CTD workers with the support of a multidisciplinary team, as a strategy that positively contributes in the socialization among affected individuals, by sharing feelings and experiences with the disease.

The authors state that for the possible design of new actions aimed at worker's health, it is necessary the involvement of the workers themselves as the main axis, besides the support of the business class in this process⁽¹⁵⁾.

In a study carried out in Minas Gerais about the research groups in Brazil focused on worker's health, it was concluded that they seek a better quality of life of workers; moreover, it was also observed a concern on the part of research groups regarding the health injuries caused by work⁽¹⁶⁾.

CONCLUSION

As regard to the first objective of the study, by analyzing and discussing the selected literature it was possible to demonstrate the occurrence of several changes in the workers' lives, due to the incidence of CTD. Such impacts covered various aspects of life of

these individuals: physical, psychological, social, professional and personal. It is noteworthy that the worker often ends up becoming victim of prejudice, developing relationship problems in the workplace, in healthcare, and even in family, due to the disbelief on their illness condition from the company and from their own work colleagues.

Moreover, the presence of work-related diseases meant a milestone in the lives of these people, since the activities they used to carry out were compromised, the production at work decreased, causing concern and anguish, to the point of this illness experience be reported as an everyday life event filled with suffering and uncertainty.

Regarding the second objective of the study, on the intermediate question implemented in the process of articles analysis, we verified a sparse production of studies that emphasize possible strategies or contributions to the body of nursing knowledge, particularly regarding the assistance practice focused on workers affected by CTD. Thus, although we have selected the period of last five years for this study, due to the increase of recent productions on the theme, these issues were not further investigated, since only one study (L3) of the 14 selected addressed the care issue more clearly.

This mentioned study was developed by nurses and addressed directly and objectively the importance of offering support to professionals, in order to enable the reduction of inadequacies in work environments, encouragement of disease prevention, and expansion of activities beyond pain control.

For nursing practice, we could infer that the recent literature are disappointing when it comes to offer sufficient assistance/subsidy to create new health strategies, aiming to improve the living conditions of these workers, or even to encourage prevention and health promotion.

In this context, this current review highlights the importance of studies on the subject, that are able to subsidize a more consistent nursing performance among these workers, anchored in a deeper body of knowledge about the disease and its impact the lives of these people and those surrounding them.

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