

# Vocational rehabilitation for disabled workers: reflections from the state of the art

## Reabilitação profissional para trabalhadores com deficiência: reflexões a partir do estado da arte

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### Resumo

A Reabilitação Profissional (RP) é um serviço da Previdência Social que, em sua dimensão social, visa promover o potencial laborativo residual de trabalhadores que sofreram doenças ou acidentes do trabalho e de pessoas com deficiência e, em sua dimensão econômica, reduz os custos previdenciários com benefícios. Considerando a relevância e ainda restrita visibilidade desta temática no âmbito da saúde e do emprego, este artigo apresenta o levantamento da produção científica sobre reabilitação profissional publicada no Brasil no período de 2001 a 2011. Os dados foram coletados de janeiro a fevereiro de 2012 nas bases de dados Lilacs, Scielo, Redalyc e no Banco de Teses da Capes, resultando em 48 pesquisas que foram analisadas e categorizadas conforme as temáticas prevalentes. As principais questões cotejadas pelas pesquisas referem-se à discussão acerca da efetividade do programa de RP, às limitações do processo de perícia médica e às LER/Dort (Lesão por esforços repetitivos/distúrbios osteomusculares relacionados ao trabalho) como importante agravo à saúde dos trabalhadores.

**Palavras-chave:** Reabilitação; Saúde ocupacional; Seguridade social; Trabalho.

## Abstract

Occupational rehabilitation is a service from social security that, in its social dimension, aims to promote the residual labor potential of workers who have suffered work-related injuries or illnesses and those with disabilities. In its economic dimension, occupational rehabilitation reduces welfare benefit costs. Considering the relevance and limited visibility of this issue in the context of health and employment, this study presents a survey of scientific literature on vocational rehabilitation published in Brazil from 2001 to 2011. The data were collected from January to February 2012 in the databases Lilacs, Scielo, Redalyc, and Capes' Theses, resulting in 48 surveys that were analyzed and categorized according to prevalent themes. The main issues collated by the research refer to the discussion about the effectiveness of the vocational rehabilitation program, the limitations of the process of medical expertise, and the RSI/WRMD (Repetitive Strain Injuries/Work-Related Musculoskeletal Disorders) as an important health problem for workers.

**Keywords:** Occupational Health; Rehabilitation; Social Security; Work.

## Introduction

Occupational rehabilitation (OR) is a social security service, offered by the National Institute of Social Security (INSS), whose objective is to promote the insured person's return to work, who is found totally or partially incapacitated to conduct work-related activities for the reason of illness or accident (Brasil, 1999). It is fit to note that persons with disabilities (PWDs) should also be reviewed by an OR professional, although legislation does not give them priority of care<sup>1</sup>; this priority of care will be given if the Technical-Financial Cooperation Agreement, which was previously signed by the INSS and the institutions and associations for assistance to persons with disabilities, was accepted. The emerging recognition, not only of the work capabilities of these subjects, but also their essential social inclusion, makes occupational rehabilitation professionals<sup>2</sup> essential instruments to reach a maximum independence and equality in opportunities (Obando, 1993). An affirmative action called 'Lei das Cotas' takes up the long-standing call by determining that companies with 100 or more employees require 2% to 5% of their openings to be filled by rehabilitated beneficiaries or enabled persons with disabilities (Brasil, 1991).

The OR program starts from the defined and steady physical incapacity and according to Decree No. 3048/99, should be guided by multiprofessional work and communication with the community, both for programming of professional courses to be offered within the local tendencies and particularities and for training in technical competencies. The le-

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<sup>1</sup> In accordance with Art. 1 of the INSS/PRES Resolution number 118, on 04 November 2010, the priority for referring to OR follows the following order:

I - the insured on sick leave, accidental or welfare;

II - the insured without waiting period for sick leave carrying a disability;

III - the insured on retirement due to invalidity;

IV - the insured on special retirement, for contribution time or age that, in the work activity had reduced his functional capacity due to an illness or accident of any nature or cause;

V - the dependents of the insured; and

VI - the Persons with Deficiency - PCDs.

<sup>2</sup> The term "Professional ability" refers to the "process aimed at teaching skills and technical abilities demanded by specific occupations in the work market. [...] associating learning specific abilities of the development of concepts, attitudes and behaviors" (Menezes, 2002). The term is used for people that still do not have a professional qualification, such as in the case of PCDs that were never integrated in the work force.

gislation also provides for monitoring and research in the work market for rehabilitated subjects who “have as their aim to prove their effectiveness in the process of professional rehabilitation” (Brasil, 1999).

OR is of substantial importance when considering the 701,496 work accidents and illnesses that occurred in 2010, which resulted in 14,097 cases where workers were permanent incapacitated and mostly young people were victimized<sup>3</sup> – young people who are in the beginning of their productive phase and with an ample personal and professional horizon in front of them. In the social dimension, OR is characterized as “public response to the question of incapacity to work” (Takahashi et al., 2010, p. 7) and is characterized in the economic dimension as the exoneration of social security by the reduction of costs with social and accidental benefits. Considering the relevance of the thematic, which involves researchers from diverse areas—such as psychology, physical therapy, social assistance, education, occupational therapy, and medicine—and of the gradual development of policies and inclusive actions for persons with disabilities, it questions if scientific production has spread and if it proposes to reflect on OR. In this sense, this review article aims to visualize and analyze knowledge about the theme constructed in Brazil’s last eleven years, keeping in mind the ability to equally subsidize future discussions and research:

this understanding of “the state of knowledge” about the theme, in some moment, is necessary to process the evolution of science, the end of which periodically commands the conjunction of information and results already obtained; ordering that permits the indication of the possibility of integrating different perspectives, apparently autonomous, to identification of duplications or contradictions and the determination of gaps and biases (Soares and Maciel, 2000, p. 9).

The article describes the research methodology and outlines the obtained results in thematic categories identified as prevalent in the scientific productions on the analyzed OR.

## Methodological course and obtaining data

The initial research tracking occurred between January and February 2012 using the description “occupational rehabilitation” to search for original articles published in indexed newspapers from the SciELO database (*Scientific Electronic Library Online*), LILACS (Latin-American Literature in Health Sciences) and REDALYC (*Network of Latin American and Caribbean Scientific Magazines*), beyond the theses and dissertations found in Capes (Coordenação de Perfeccionamento do Pessoal de a University Level, from the Brazilian Ministry of Education) Theses Database. The criteria for inclusion were (1) period of publication in the interval between 2001 and 2011 and (2) the Portuguese language. Availability of only the summary of the research did not constitute as criteria for exclusion, although there was awareness of the limitations imposed for this option, since the goal was to collect the largest quantity of research produced:

[...] one can establish from a certain order of summaries, a network formed by different connected links from the same support material that houses them, by the theoretical option manifested, by the announced theme, by the explicit goal of the research, by the methodological procedure adopted by the researcher. A set of summaries organized around a determined area of knowledge [...] can tell us a story of its academic production. But, it is necessary to think that in this history, there were considerations in some aspects of this production and in that, there are certain limitations (Ferreira, 2002, p. 268).

However, the summaries excluded were those presented in such succinct and incomplete form, without evidence to the relationship between rehabilitation and work or a link with the official OR program of the INSS. On further exploring and reading about scientific production, it is evident that using the frequency of the research objects as criteria to establish the categories for analysis conforms to the following description.

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3 Approximately 50% of work accidents and illnesses registered in 2010 affected workers in the age group between 20 and 34 years old.

## Results and discussion

The initial search was performed from the expression “occupational rehabilitation,” being delimited by the publication period of 2001 to 2011 and had the Portuguese language as a requirement. The obtained result included 61 pieces of research comprising 32 articles, 6 doctoral theses, and 23 masters dissertations. On exclude repeated articles and summaries not meeting the inclusion criteria, 48 pieces of research remain, 24 of which have complete text and 14 of which have summaries. These works were organized in a matrix containing the following information, which is presented in Table 1: title, author, publication year, and type.

With regard to the publication year of the works, the greatest incidence was observed in 2010 with 12 studies, which can be attributed to the editing of a thematic dossier<sup>4</sup> that contributed to minimize the lack of literature on the subject.

The analysis of the material identified the following categories as prevalent: effectiveness of the OR, medical expertise, LER/Dort and still other approaches presented in the productions, which will be described below.

### Effectiveness of Occupational Rehabilitation

It may be possible to verify an expressive quantity of works questioning the effectiveness of the OR program, which suggests the program’s polemic character and modality, which is still not consensual (with respect to the practice). Diniz and collaborators (2010) evaluated the work capacity of workers with LER/Dort that returned to work after rehabilitation. Using an index of capacity to work (ICT)<sup>5</sup>, they suggested that it was necessary to measure the qualifications required of a potential OR candidate, mainly for workers who were removed from work and are now required to return to a condition similar to that which provoked their conditions for leaving, which could further aggravate their condition.

In the research done by Toldrá and collaborators (2010, p. 18) on the OR program developed by the Center of Reference in Worker Health (CRST) of SP which used the International Classification of Functionality (CIF) in the evaluation of workers with a long term presence in the CRST without results; the conclusion was that “in the cases studied, the occupational rehabilitation program in place demonstrated a lack of effectiveness” without the existence of “experience to perform professional (re) training courses nor were there any negotiations/interventions from the INSS with the company for their reintegration.”

Bernardo (2006), in an attempt to understand the meaning and expectations of the INSS beneficiaries regarding occupational rehabilitation in work and future life, conducted a research alongside the Social Security Agency (APS) in Belo Horizonte, where he concluded that “considering the way that the courses and training were selected, it could be said that there was no real intention for rehabilitation in the Program.” (p. 53) because in his investigation, beneficiaries had to choose courses from a limited catalog offered by community institutions (SESC, SENAC, etc.), which generally were not of interest or were incompatible with their limitation.

In an investigation on chronic renal patients with transplants and hence significantly better health and quality of life, Lôbo and Bello (2007) concluded that “the results showed the inefficiency of the social programs and occupational rehabilitation in Brazil” because although 91% of them were ready for work one year post-transplant, only a small percent (30.6%) were put back into a work activity.

In productions that point to potentials, Takahashi and Canesqui (2003) portray the experience of the LER/Dort project performed from 1995 to 1997 by a few Center for Professional Rehabilitation (CRP) teams that were based in Campinas: “beyond therapeutic activities, [the CRP teams] would involve professionalization and negotiation with the companies for the return of those who were rehabilitated into compatible functions” (p. 1477-1478); they coun-

<sup>4</sup> The thematic dossier *Incapacity, professional rehabilitation and Worker Health: old questions, new approaches* was published in 2010 by the Brazilian Magazine for Occupational Health, in volume 35, number 121.

<sup>5</sup> The ICT is an auto-evaluation survey of workers regarding their health and capability to work. ICT was developed by the Occupational Institute of Finland in 1997 and was validated, translated, and adapted for Brazil (Tuomi et al. and Diniz et al., 2010).

**Table 1 - Scientific production on vocational rehabilitation in the period from 2001 to 2010**

Year	Title	Author(s)	Type
2010	Reintegration in the labor market of ex-workers with READ/DORT of an electronic company in the metropolitan region of Sao Paulo	Main river is, M. ; Wunsch Son, V.	Article
2010	Labor Capacity of insured persons of the INSS bearers of READ/DORT who had returned to work	Diniz, K. T and collaborators	Article
2010	Prevalence of low back pain in workers subjected to the program of Vocational Rehabilitation of the National Institute of Social Security (INSS), Sao Luis, MA	Abreu, A. T. J. B. ; Ribeiro, C. A. B	Article
2010	Disability, vocational rehabilitation and worker health: old issues, new approaches	Takahashi, M. ; Mine, K. ; Milk, R. A. O.	Article
2010	Facilitators and barriers in returning to work: the experience of workers seen in a Referral Center in Worker Health, SP, Brazil	Toldra, R. C. and collaborators	Article
2010	Vocational Rehabilitation in Brazil: elements for the construction of a public policy	Main river is, M. ; Vilela, A. R. G.	Article
2010	Program of vocational rehabilitation for workers with disabilities by READ/DORT: experience report of Cerest-Piracicaba , SP	Takahashi, M. A. C. and collaborators	Article
2010	Proposal for a joint between methodological approaches for improving the process of vocational rehabilitation	Simonelli, A. P. and collaborators	Article
2010	Vocational Rehabilitation: the collective as a tool for re-signification	Poersch & Chiele, A. L. ; Ramos, M. Z. ; Silva, R. N.	Article
2010	Epidemiological Study of the wood sector seen in a technical unit for vocational rehabilitation	Bahia, H. S. A. and collaborators	Article
2009	Epilepsy and incapacity to work	Gomes, M.M.	Article
2009	Vocational Rehabilitation and social inclusion policy: (revision)	Maeno, M.; Takahashi, M.A.C.; Lima, M.A.G.	Article
2009	Rehabilitation Program extended (PRA): a multidimensional approach the process of vocational rehabilitation	Bartilotti, C. B. and collaborators	Article
2009	Biopsychosocial Predictors of physical disability and depression in workers of the refrigerators industry enrolled in a program of vocational rehabilitation	Mackereel Junior, J. J. ; Kupek, E. ; Cruz, R.	Article
2009	Predictors of return to work in a population of workers enrolled in a program of vocational rehabilitation	Mackereel Junior, J. J. and collaborators	Article
2009	Forensic medical and vocational rehabilitation: the current model of expertise and a proposed multidimensional applied in a pilot project in Santa Catarina	They Fulfill, A. J. and collaborators	Article
2008	The changes in the practices of vocational rehabilitation of Social Security in Brazil: modernization or weakening of social protection?	Takahashi, M. A. B. C. ; Iguti, A. P.	Article
2007	Vocational Rehabilitation post-renal transplantation	Lobo, M. C. S. G. ; Bello, V. A. O.	Article
2007	Aspects related to the process of return to work of individuals with musculoskeletal disorders of the upper limb: an annotated bibliography	Silva, S. R.; Guimaraes, E. V. ; Rodrigues, A. M. V. N.	Article
2003	Evaluative Research on professional rehabilitation: the effectiveness of a service in deconstruction	Takahashi, M. A. B. C. ; Canesqui, A. M.	Article
2003	Vocational Rehabilitation in a bank: facilitating and hindering return to work	Gravina, M. E. R. ; Nogueira, D. P. ; Rocha, L. E.	Article
2002	Project copier from Luis Cerqueira (CAPS): from the work of copying things to the production of life	Silva, A. L. A. ; Fonseca, R. M. G. S.	Article
2010	Vocational Rehabilitation and its implications on cognitive functioning of patients with schizophrenia	Bio, D. S.	Dissertation
2010	Historical Trajectory of rehabilitation in the city of São Paulo	Sousa, L. A.	Dissertation

(To be continued)

**Quadro 1 - Produção científica** **Table 1 - Scientific production on vocational rehabilitation in the period from 2001 to 2010 (continued)**

Year	Title	Author(s)	Type
2009	Influence of socio-demographic factors, clinical and institutional in granting benefits for incapacity to work by sector of medico-legal reports of INSS in Juiz de Fora - MG on 22/06 insured with a diagnosis of mental disorders	Siano, A. K.	Dissertation
2008	Reflections on the social representation of the individual bargain in the world of work	Gomes, T. N.	Dissertation
2008	Social Consequences of Work-related Accidents - Experiences, narratives and restructuring of the daily life of informal workers who suffered serious occupational accidents in Salvador - Bahia - Brazil	Araujo, G. R.	Dissertation
2008	Rehabilitation and reintegration in work of banking bearers of RSI: psychodynamic analysis.	Rossi, E. Z.	Thesis
2007	Methods of assessing biomechanics applied to jobs in Industrial Pole of Manaus (AM): a contribution to the ergonomic design	Falcon, F. S.	Dissertation
2006	Workers bearers with restrictions and ergonomics - the Nursing Perspective of Work	Pereira, S. C.	Dissertation
2006	Youth and adult Education and training of teachers: historical study under the theoretical framework of symbolic violence	Dudeque, M. L.	Dissertation
2006	Disability and social welfare: trajectory of incapability of workers with injuries by READ/DORT in the context of the Brazilian social security reform of the decade of 1990	Takahashi, M. A. B. C.	Thesis
2006	The meanings of work and vocational rehabilitation for the worker incapable for the exercise of the usual profession	Bernardo, L. D.	Dissertation
2006	The Social Service in vocational rehabilitation of the INSS: the experience of the agency of Social Welfare of São José do Rio Preto - SP	Scaranello, A. F. S.	Dissertation
2006	Vocational Rehabilitation of chemical dependents: descriptive study using qualitative and quantitative approach	Bonadio, A. N.	Dissertation
2005	Work, Subjectivity and Vocational Rehabilitation: a genealogy of modes of life.	Ramos, M. Z.	Dissertation
2004	Persons with disabilities organized in cooperatives: an alternative work?	Carreta, R. Y. D.	Thesis
2004	Challenges of vocational rehabilitation for the 21st century; a study of prognostic factors of vocational rehabilitation of the rough work with chronic diseases of the vertebral column, in the period from 1993 to 1997, in Campinas - SP	Mahayri, N.	Thesis
2004	The vocational rehabilitation is possible: a case study of a company of mixed economy	Watanabe, M.	Dissertation
2004	Banking with READ (Repetitive Strain Injury) and its vocational rehabilitation: possibilities and limits in returning to work	Gravina, M. E. R.	Thesis
2003	Bailout of workstations ergonomically adapted for tetraplegic	Pereira, A. S.	Dissertation
2003	The vocational rehabilitation: a program of reintegration of the splintered into the labor market	Gurgel, M. E. P.	Dissertation
2003	Perception of READ/DORT of rehabilitated the INSS and their employers.	Carvalho, F. R. P.	Dissertation
2003	Working increasingly fast to keep pace. Learning the social dynamics of the work process and health in an automobile industry in the local context of Betim	Silva, J. F. S.	Dissertation
2002	Vocational rehabilitation Process of understanding the meaning of the return to work	Nalasco, L. F.	Dissertation
2001	Reintegration of workers with repetitive strain injuries in the labor market	Main river is, M.	Dissertation
2001	Poor physical Insertion into the labor market: the optics of the specialized institution and the optics of its alumni	Galvani, R. C. D.	Dissertation
2001	The work that builds up to that destroys identities: the case of banking bearers of work-related musculoskeletal disorders (Wrmd) in the state of Goiás.	Ferreira, M. C. P.	Dissertation

ted on an interdisciplinary team made up of doctors, sociologists, psychologists, physical therapists, and occupational therapists, thus defining the intervention methodologies as a team. The authors envision this program's high effectiveness—in that it broke with the present biomedical model and focused not only on the physical aspect but on the compatibility of work for those attended, while taking into account the emotional, relational, and social dimensions because it permitted a 64% rescue of the subject's autonomy in terms of work and life in general.

Bartilotti and collaborators (2009, p. 74) described a project called Expanded Rehabilitation Program (PRA), attended by 425 workers from the agro-industry in Santa Caterina; at this event, the workers considered that “the intervention proved to be effective, in general,” because it was multi-dimensional while also incorporating clinical and educational aspects. Sardá Junior and collaborators (2009b), referred to the same project which stressed the importance (beyond treatment) of preventative actions regarding changes in work environments, mainly by addressing the refrigeration industry, in which there exists a large quantity of workers with a high prevalence of occupational illnesses.

Watanbe (2004) analyzed an instance wherein an OR, developed in a business context by a multiprofessional team, was “felt by those responsible as a gratifying process for those who were rehabilitated, the company and the employees” (p. 154). Beyond the physical recuperation, the workers had recuperated their self-esteem with the help of support from their company and colleagues and with the certainty of a compatible work post in their work capacity “permitting them to work normally, in accordance with their possibilities, in their rhythm and without pain or force” (p. 155).

The experiences of therapeutic groups, such as those described by Poersch and collaborators (2010) and Gravina and collaborators (2003), attending beneficiaries of OR from a hospital and a bank, respectively, aimed at

[...] being a space for workers removed from work due to illness to talk and listen and also share their experiences with other colleagues—their wisdom, their pain, their suffering. During such exchanges, these workers recognize that they are not alone in

suffering with a work-related illness. They have an opportunity to share, to rethink, to reflect and, who knows, maybe to give new meaning to their illness and this moment in their life (Poersch et al., 2010, p. 139).

Therapeutic groups were observed to facilitate the workers' return to work by socializing the process of rehabilitation. Another such facilitator, identified by Rossi (2008) and by Gurgel (2003), was a reduced time of absence, attributed to the exclusion and prejudice exhibited toward a worker upon return owing to their functional limitations.

From reports referring to the historical context of OR in Brazil, which is largely described and discussed in various studies (Maeno and Vilela, 2010; Maeno et al., 2009; Takahashi and Iguti, 2008; Takahashi, 2006), it is observed that the structure in place during the 70s and 80s—although centralized in Occupational Rehabilitation Centers and the Nucleus of Occupational Rehabilitation—counted on multiprofessional teams and evolved to an integral, interdisciplinary and even inter-institutional focus, articulating rehabilitation with prevention. After the disassembly of the 80s and 90s, there was a model transformation in the rehabilitation program called *Reabilita*, whose goal was to decentralize OR by investigating the scope for a wider network of attendance (Cherem et al., 2009). However,

[...] the divergence between the logic of SUS (assistance and prevention) care and of the INSS (insurance agency) is reflected in contradictions and day-to-day conflicts appearing in the conduct of cases; this divergence can compromise treatment, early secondary prevention, and professional rehabilitation (Takahashi et al., 2010, p. 110).

Similarly, Maeno and Vilela (2010) conclude that in social security, accounting logic and reduction in the cost of benefits is given precedence over the guarantee of constitutional rights of those insured since the cessation of benefits is frequent even during partial incapacity and at times without access to the OR process. They suggest the construction of an OR public policy wherein the State promotes “dialog between the areas of economic and social development” and in fact integrate “assistance, monitoring and surveillance of work conditions

and social security” (p. 96), eager to promote social reintroduction of workers with restrictions.

For Silva (2003) and Maeno and collaborators (2009, p. 58), the OR should be thought “within a nation policy for worker health, transversal, and inter-sectional, with the main goal of combating dangerous work conditions and causes of illnesses,” keeping the competence of the State as a “legal and social regulator for the benefit of exercising citizenship,” rather than delegating the rehabilitative function to the companies. The authors propose CIF as a tool for OR, with a change in focus from incapacity to function and from the disability to possibilities upon the acceptance of human diversity and the need for intervention not only for those who are ill but also those in a sociocultural-environmental context.

We observed that the effectiveness of OR is directly related to public policy involving the social inclusion of incapacitated workers. According to the experiences described, it could be said that, from the institution of *Reabilita*, the involved OR is actually quite indistinct from the minimum criteria necessary for the reintroduction of beneficiaries to work and in society.

## Medical expertise

The medico-legal report on those insured is the subject of extensive research. Furthermore, evaluations should be performed by a multiprofessional team covering psychological and social aspects beyond the physical ones, which interact in the establishment of incapacity (Simonelli et al., 2010; Cherem et al., 2009; Maeno et al., 2009; Bartilotti et al., 2009).

Although the World Health Organization adopted the social model wherein the environment is determined by the level of incapacity and not the individual (OMS, 2002), the medico-legal experts, within the biomedical concept, consider only the physical conditions of incapacity while also on the lookout for “fraudsters of the social security system” (Maeno et al., 2009, p. 56)—i.e., individual who do not bear any mark of incapacity (which is instead observed in the case of LER/Dort victims) or those who can mimic pain of a mental illness without exhibiting a distinctive appearance.

In the study conducted by Bartilotti and collabo-

rators (2009), both medical experts and professionals on the team—comprising an occupational therapist, physical therapist, and psychologist—evaluated the expertise practice regarding multidimensional character and considered it effective; discuss these cases while contemplating bio-psycho-social aspects of work, the experts and professional concluded that “the biomedical model is insufficient for understanding the greater part of occupational illnesses and the process of occupational rehabilitation” (p. 74). It is worth noting that in the developed OR program, the available services (beyond cited specialties) include “acupuncture, global postural re-education (GPR), *tai chi chuan*, massage therapy, circle dances, informative groups, physical conditioning, water gymnastics, complementary therapies, and social assistance” (p. 68), beyond the “professional requalification through professionalizing courses that make work force reinsertion possible in a function different to that previously exercised” (p. 71).

Regarding this program, Cheren and collaborators (2009, p. 97-98) point that the following:

The question placed before the OR medical experts from the INSS and other components of this process relates to perfecting and improving visual acuity, widening the ability to listen, and identifying the organic and mental signals and symptoms that are generally only slightly visible or perceptible in order to make the professional more aware and precise while diagnosing the functional incapacity of identifiable pathologies. All of this, without ignoring the perspective that the insured person is an individual inserted into our society, who has other necessities beyond those clinically detected.

In Minas Gerais, Siano (2009) identified differences in the approval of benefits for workers with mental illnesses when the examination was performed by a medical expert with a specialty in psychiatry: due to the complexity of identification in these pathologies that figure in among the three main causes of removal from work—together with the musculoskeletal and cardiovascular illnesses; hence there is a need for more qualified medical experts to work with insured individuals having mental illnesses.

According to the description, it was observed that the act of examination is a critical point in the

program, requiring broadening of the discussion about the team, the skills and ideal abilities for attending OR users.

## LER/Dort

LER/Dorts, while harmful to a worker's health, constitute an important specificity not only because of its high prevalence but also for the peculiarities it exhibits on closer examination, i.e., about how chronic it is and for the very etiology of the illness that is psychosomatic (according to Dejours (2000)) and primarily targets the "pressures" of mental and not corporal functioning.

From the physical point of view, these pathologies have several integrated direct/indirect risk factors related to postures, loads, exposure to vibrations, cold or pressure on determined regions of the body, repetitiveness, and even cognitive demands. According to Maeno and collaborators (2006, p. 19), "the most common complaints are localized pain, irritation or generalized discomfort, fatigue, and a heavy sensation," mainly in the cervical region and upper limbs, "which initially occurs during or after work, i.e., on the same day, but with time occur during the weekends and holidays as well, thus becoming constant" (Maeno, 2003, p. 84).

LER/Dorts have been a constant prevalence since 2004 (Brasil, 2004) and figure among the occupational harms that most prompt prolonged removal from work, initially affecting a specific category of professionals, such as bankers and typists, after which they spread to a wide variety of professionals (Carvalho, 2003; Maeno et al., 2006; Rossi, 2008). LER/Dorts are commonly associated with cases of depression, which according to Sardá Junior and collaborators (2009b) increase incapacity and are a predictor of nonreturn to work.

In the examinations, there hangs a lack of trust because the illness does not present concrete and palpable evidence: "I felt embarrassed and uneasy because none of the doctors nor the people believed that I had a problem [...]. They thought I was inventing an illness" (Maeno and Wunsch Filho, 2010).

"[...] they don't even look at the exams and think we are bluffing" (Poersch et al., 2010, p. 141).

In the worker's rehabilitation program with LER/Dort and mental suffering, which was related to the work described by Bartilotti and collaborators (2009, p. 74), the aim was to identify what would be the minimum team necessary for attendance, which was not possible, but concluded that the OR process

[...] needs to accompany each patient from a bio-psycho-social perspective. [...] the main focus of the rehabilitation teams should not be the installed pathology, but instead, the development of new possibilities from the degree of functionality of the patient (Bartilotti et al., 2009, p. 74).

Maneo and Wunsch Filho (2010) relate the instability of a real situation in the 1990s regarding a large metalworking company in São Paulo where the *taylorista-fordista* production model took hundreds of workers to develop LER/Dort, a situation initially hidden by the unofficial removal of operators, without providing any remuneration or treatment by the company's medical service. Following complaints by the syndicate and investigation by the public powers, 1038 CATs<sup>6</sup> were issued for the concession of accident benefits. Changes imposed on the production lines as well as ergonomic adjustments were not sufficient to end the mutilation of workers that (then in an official form) were terminated from work. Afterwards, the company offered an "advantageous" agreement for the dismissal of removed workers, liberation of the guarantee fund, provision of holidays, and a year's salary and corresponding health insurance, all in exchange for the signing of a syndicate-approved declaration "according to which the workers give up their right to use the judicial system after breaking the employment relationship" (p.54). This "voluntary" dismissal for many was an attempt to free themselves of the embarrassment and humiliation to which they were submitted; as perceived in the words of those interviewed, "I had the feeling of being useless, getting in people's way. I had a new supervisor that humiliated me and said that I was useless (p. 59)".

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<sup>6</sup> CAT refers to the Communication of Work Accident, which is issued by an INSS company and is mandatory under the penalty of a fine in the case of omission. It has the importance of the welfare, statistical, epidemiological, worker's, and social point of view.

Only in the months of January and February of 2012, concessions of accident benefits related to illnesses of the musculoskeletal system and the conjunctive tissue in which LER/Dorts are included added up to 11,426, corresponding to 24.6% of that period's total conceded benefits. Since this condition is known to affect workers across diverse areas of occupation, it is necessary to look for solutions beyond the rehabilitation itself, because in order to break the cycle in which workers fall ill, thus making these pathologies chronic, it is imperative to consider preventive factors in terms of interventions in the workers' posts.

## Other approaches present in the productions

Some other questions present in the productions analyzed are cases of workers with epilepsy (Gomes, 2009), schizophrenia (Bio, 2010), and other mental illnesses (Silva et al., 2002). These cases do not necessarily imply incapacity to work; in fact, in most cases, the very medication used for controlling these illnesses carries secondary deficits, and the necessity of removal from work or the benefit that working could mean in the lives of the subjects should be analyzed case by case. Addressing the concepts of work for chemically dependent people, Bonadio (2006) suggests that the model of OR intervention should not focus on employability but on the structuring of life projects, directed by the principles of professional orientation in a psycho-social approach.

Epidemiologically studies relating categories of specific professionals with incidence of accidents or illnesses were also observed, as in the case of the loggers in Pará, where amputations and fractures of the wrist and hand were predominant (Bahia et al., 2010), the OR beneficiaries in Maranhão with a prevalence of chronic lower back pain (Abreu and Ribeiro, 2010), the successful experience of the PRA for refrigerator industry workers in Santa Catarina (Bartilotti et al., 2009; Sardá Júnior et al., 2009a) and the bankers with LER/Dort in Goiás (Ferreira, 2001).

Silva and collaborators (2007, p. 42) performed a review of articles on musculoskeletal disorders in the upper limbs and found evidence that “there

is a necessity and concern about returning to work as early as possible, thus helping the worker avoid emotional distress and personal loss and saving costs that would have to be incurred by the employer and/or the government.”

Carrenta (2004) identified in work cooperatives, a perspective of inclusion in the work force for people with disabilities in a way that was

[...] simultaneously autonomous and collective, opposing the authoritarian models of rehabilitation in which a technical team—supported by “technical knowledge”—determines the work model and time for entering the competitive market, which often overwhelms the interests and possibilities of the program's user (p. 56).

Studies such as that of Falcão (2007) are important for addressing alternatives to including occupational bio-mechanical knowledge in team projects and work stations in order to improve man-machine interaction and in looking for better performance with reduced risk of musculoskeletal disturbances. In this sense, Pereira (2003) studied the specific situation of tetraplegia, where movement of upper limbs, together with inferior ones, is compromised, becoming even more limited in work options available and making possible devices and adaptations necessary so that this public can exercise their work potential and reach their aspirations.

Scaranello (2006) defends the insertion of a social assistant in the OR team, including examination service, commitment to the ethical-political project of the profession in the defense of social rights, and consolidation of the public user's citizenship—not to be mischaracterized under the general name of “professional guiding.”

A lower educational level is common among workers who are victims of work accidents, as described by Araújo (2008), Gomes (2008) and Galvani (2001). In this sense, Dudeque (2006) emphasized “symbolic violence,” in the form of early retirement, of which workers incapacitated due to work are victims—that are not eligible for the OR program because of their lower level of education.

These and other questions are present in the scientific production that was analyzed, demonstrating the scope of the theme as well as many of its particularities and potential.

## Final considerations

In general, the review of the scientific production within the stipulated period gradually identified changes in the OR program and its current fragility in terms of effectiveness; as a public policy for social inclusion of incapacitated workers and persons with disabilities, this consequently provided expert analysis with a strong responsibility. In addition, the review elucidates that despite the intensification of prevention and monitoring actions at work, of LER/Dorts continues to be a great motivator for removal from work activities, along with all of its underlying economic and social consequences.

Some successful OR experiences were identified, demonstrating that it is possible to qualify this service, and some suggestions were released, such as the use of CIF as a tool to change the focus of incapacity to functionality, as per the OMS adoption.

What limited this review was not the inclusion of foreign articles but was justification of the goal, i.e., the analysis of the national panorama with respect to OR. For future work, it is suggested that studies be executed that communicate the expansion of knowledge for solutions to the priority questions in an international context.

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