

Quality of working life: assessment of intervention studies

Qualidade de vida no trabalho: avaliação de estudos de intervenção
Calidad de vida en el trabajo: evaluación de estudios de intervención

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ABSTRACT

Objective: to analyze the production of knowledge about interventions on quality of working life. **Method:** integrative review study. The following databases were used for study selection: SciELO, Medline and PubMed. **Results:** the sample included 25 national and international articles that described programs and methods to acquire healthy habits at the workplace and attenuate its mental demands. **Conclusion:** by observing the number of businesses throughout the world, a low number of programs addressing workers' health and well-being can be found, and the establishment of efficient policies at institutions could improve this situation.

Descriptors: Intervention Studies; Quality of Life; Work; Health Promotion; Review.

RESUMO

Objetivo: analisar a produção de conhecimento sobre intervenções em qualidade de vida no trabalho. **Método:** estudo de revisão integrativa. Para seleção dos estudos, utilizou-se as bases de dados: SciELO, Medline e PubMed. **Resultados:** a amostra incluiu 25 artigos nacionais e internacionais que descreveram programas e maneiras de adquirir hábitos saudáveis no ambiente laboral e amenizar as demandas mentais decorrentes do mesmo. **Conclusão:** diante da quantidade de empresas em todo o mundo, verifica-se número inexpressivo de programas voltados para a saúde e bem-estar dos trabalhadores, e a implantação de políticas eficientes nas instituições poderia minimizar tal situação.

Descritores: Estudos de Intervenção; Qualidade de Vida; Trabalho; Promoção da Saúde; Revisão.

RESUMEN

Objetivo: analizar la producción de conocimiento sobre intervenciones en calidad de vida en el trabajo. **Método:** estudio de revisión integrativa. Para la selección de los estudios, se utilizaron las bases de datos: SciELO, Medline y PubMed. **Resultados:** la muestra incluyó 25 artículos nacionales e internacionales que describieron programas y maneras de adquirir hábitos saludables en el ambiente laboral y amenizar las demandas mentales resultantes del mismo. **Conclusión:** frente a la cantidad de empresas en todo el mundo, se verifica un número inexpressivo de programas direccionados a la salud y bienestar de los trabajadores, y la implantación de políticas eficientes en las instituciones podría minimizar dicha situación.

Descriptorios: Estudios de Intervención; Calidad de Vida; Trabajo; Promoción de la Salud; Revisión.

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INTRODUCTION

The understanding of the term quality of life (QoL) is multidisciplinary and recent, and its limits and concepts are in the process of being defined; thus, definitions of the term are common, but not always in agreement⁽¹⁾. For the World Health Organization (WHO), QoL is defined as "individuals' perceptions of their position in life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept, incorporating in a complex way a person's physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to salient features of the environment"⁽²⁾.

It is understood that QoL, by presenting various forms and aspects, is present in a variety of dimensions to verify aspects of individuals and of the collectivity. Regarding the workplace, there is the concept of quality of working life (QoWL), which is a comprehensive understanding of quality of life at the workplace, including aspects of well-being, guarantee of health, physical, mental and social safety and training for conducting tasks safely and with good use of personal energy. The construction of QoWL begins when businesses and individuals are perceived as a whole, promoting workers' well-being and safety with the aim of guaranteeing higher productivity, work quality and higher satisfaction with family and personal life⁽⁵⁾.

Studies on QoWL were conducted in many countries, such as China, where the authors found that migrant workers had low QoL when compared to the general population. Thus, a health education intervention was conducted in the community, with improvements in QoL observed at the end of the study, with resulting improvements in work quality⁽⁶⁾.

In Brazil, at an agricultural product market in the city of Campinas, state of São Paulo, a study on work conditions, health aspects and work capacity was conducted with young workers, with the aim of promoting health at the workplace. Health promotion activities were conducted, such as educational groups, distribution of pamphlets, exhibition of posters at the market based on the population's health education and awareness of the adoption of healthy life habits. Results analyzed demonstrated the need for interventions at the workplace, in order to maintain work capacity and, with this, reduce the researched population's fatigue⁽⁷⁾.

In a research developed in the pacific Midwest, the authors explored factors that motivated the implementation of intervention actions to promote health at the workplace in small- and medium-size businesses, motivated by three objectives: reduction of healthcare costs, addressing human relations and improvement of productivity. The conclusion was that health professionals must encourage health promotion at the workplace⁽⁸⁾.

A study conducted with primary health workers in Brazil found an association between adverse psychosocial work conditions and poor QoWL for workers, thus demanding intersectoral actions for health and QoWL promotion, considering the adverse psychosocial work conditions⁽⁹⁾.

This evidences the importance of workplace interventions for attenuating the difficulties involved in work activities and promoting individuals' health. Considering the evidence, the following guiding question was created: "How do workplace interventions interfere in workers' health?"

Thus, the proposed objective is to identify and analyze knowledge production regarding interventions conducted at the workplace that address QoWL.

METHOD

An integrative literature review study⁽¹⁰⁾ was conducted from August to October, 2014, in the SciELO, Medline and PubMed databases, with the aim of identifying studies related to QoL, QoWL and intervention.

An integrative literature reviews is a more extensive review method, because it allows the inclusion of theoretical and empirical literature, as well as studies with varying methodological approaches (quantitative and qualitative). Studies included in the review are systematically analyzed according to their objectives, materials and methods, enabling readers to examine preexisting knowledge regarding the theme investigated⁽¹¹⁾.

For better systematization, these stages were followed: definition of the guiding question (problem) and research objectives; establishment of inclusion and exclusion criteria for publications (sample selection); searches in literature; analysis and categorization of studies; presentation and discussion of results⁽¹⁰⁾.

Indexed articles were searched in the Scielo, Medline and Pubmed databases, using the health sciences descriptors (decs.bvs.br) "*Intervention studies*", "*Quality of life*" and "*Health Promotion*", which were integrated with the logical Boolean operator "*and*", published from 01/01/2005 until 12/31/2014, in Portuguese and English.

Inclusion criteria were: studies that addressed QoWL, QoWL interventions, as well as health promotion at the workplace. Articles which were not published in full were excluded.

To facilitate selection, categorization of information and study analysis, a script was developed with the following items: author, country, year, location, phenomenon researched, population and result. The first articles were selected by reading their titles and abstracts. Secondly, the articles in full were thoroughly read and the information obtained was presented as charts and analyzed, with three subthemes related to QoWL interventions: physical activities and health care, mental demands of work (stress, interpersonal relations, psychological risks) and work capacity and disease prevention.

RESULTS

Database searches resulted in 149 articles from SciELO, 244 from Medline and 312 from PubMed. After reading their abstracts, 29 articles were selected from SciELO, 123 from PubMed and 33 from Medline.

Eventually, 25 articles remained, which constituted the study sample, considering exclusion criteria (Figure 1) and articles that included authors, countries, objectives, population and main results regarding: physical activities and health care (Chart 1); mental demands of work (sleep, interpersonal relations, stress, psychological state) (Chart 2); and work capacity and disease prevention (Chart 3).

Regarding the methodology employed, two studies used the qualitative approach, 16 used the quantitative approach, five used systematic reviews, one used critical review and another used bibliographical review. As for study location, four international studies were conducted in the Netherlands, three in Australia and one in each of the following countries: Canada, United Kingdom, Germany, New Zealand, Finland, Turkey and Spain. Among Brazilian studies, five were conducted in the state of São Paulo, two in Rio Grande do Sul and one in each of the following states: Paraná, Minas Gerais, Espírito Santo, Goiás, Rio de Janeiro and the Federal District, all of them published in the period from 2005 until 2014.

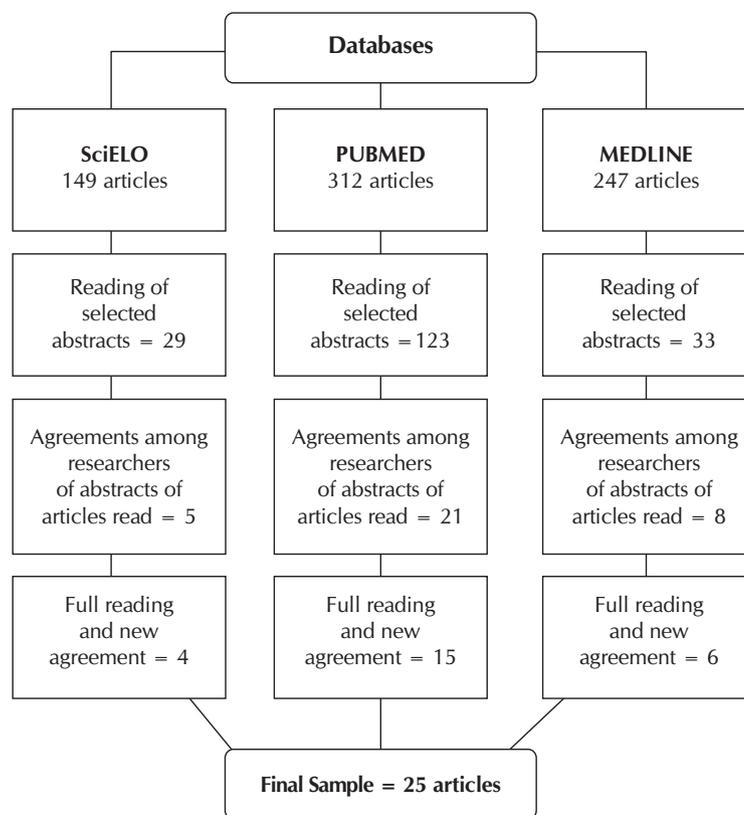


Figure 1 – Diagram representation of article searches in databases, Campinas, São Paulo, Brazil, 2014

Chart 1 – Description of articles on physical activities and health care, according to author, country, population, objective, study method and main results, Campinas, São Paulo, Brazil, 2014

Author/ country	Population	Objective	Study method	Main results
Grande, 2013 ⁽¹²⁾ Brazil	190 workers	To analyze determinant factors of quality of life after three months of health promotion program for workers.	Experimental study: randomized clinical trial	When comparing national data to this study's data for all self-referred chronic diseases, significant statistical differences were observed for hypertension, asthma and thyropathies (p < 0.0001). Practice of physical activities for aesthetic reasons has a negative influence on the perception of quality of life.
Johnston, 2014 ⁽¹³⁾ Australia	640 office workers	To investigate if the introduction of ergonomics and exercise into the workplace could diminish cervical pain.	Quantitative	Protocol. Results will be disclosed after 12 months of intervention.
Mansi, 2013 ⁽¹⁴⁾ New Zealand	60 workers	To investigate if a walking program with use of a pedometer could improve health quality for meat processing workers	Quantitative	The study was collected at three times, and results have not been disclosed yet.
Cheema, 2013 ⁽¹⁵⁾ Australia	37 office workers	To determine if a Hatha Yoga program could improve physiological stress and health.	Quantitative	The yoga intervention significantly increased lumbar and hip mobility (p < 0.001), and analyses revealed that those who had a high adherence to yoga had their anxiety state reduced (p = 0.02) and tended to have improved muscle resistance (p = 0.07).

To be continued

Chart 1 (concluded)

Author/ country	Population	Objective	Study method	Main results
Rutanen, 2014 ⁽¹⁶⁾ Finland	123 women during menopause	To assess the effects of physical exercise on work capacity and daily effort.	Quantitative	Increase in mental resources and decrease in physical effort were significantly higher for the intervention group than for the control group ($p < 0.05$).
Vilsteren, 2012 ⁽¹⁷⁾ Netherlands	Workers	To investigate the effectiveness of an intervention program at the workplace for workers with rheumatoid arthritis.	Quantitative	Results have not been disclosed yet.
Morgan, 2012 ⁽¹⁸⁾ Australia	110 obese individuals	To evaluate the impact of a weight loss program at the workplace	Quantitative	Weight loss and improvements in quality of life, productivity, absenteeism and lesions for male workers.
Esmailzadeh, 2014 ⁽¹⁹⁾ Turkey	400 computer workers	To investigate the effects of ergonomic interventions in work-related upper extremity musculoskeletal symptoms (WUEMSS).	Quantitative	In the intervention group, body posture ($p < 0.001$) and workstation layout ($p = 0.002$) improved within 6 months. Intensity ($p < 0.001$), duration ($p < 0.001$), and frequency ($p = 0.009$) of WUEMSS significantly decreased for the intervention group when compared to the control group. Functional, ($p = 0.001$) physical, ($p < 0.001$) mental, ($p = 0.035$) and health states related to quality of life significantly improved in comparison to controls.
Santos, 2011 ⁽²⁰⁾ Brazil	101 office workers	To assess the impact of a prevention program for work-related musculoskeletal disorders (WMSD) on quality of life for two groups.	Quantitative	The intervention group received specific counseling for WMSD prevention, whereas the control group received sanitary education. There were no statistically significant differences between groups ($p > 0.05$).
Cloostermans, 2014 ⁽²¹⁾ Netherlands		To verify in literature the effects of interventions for elderly workers related to retirement, work capacity and productivity.	Systematic review	Programs ranged from individual programs to workplace programs. Due to insufficient evidence, it was not possible to verify the interventions' positive effects.
Harris, 2011 ⁽²²⁾ United Kingdom		To assess the effectiveness and cost-effectiveness of e-learning interventions for changes in dietary behavior.	Systematic review	E-learning devices produced no significant changes in dietary behavior.

Chart 2 – Description of articles on mental demands of work (Sleep, interpersonal relations, stress, psychological state), according to author, country, population, objective, study method and main results. Campinas, São Paulo, Brazil, 2014

Author/country	Population	Objective	Study method	Main results
Pereira, 2010 ⁽²³⁾ Brazil	Orchestral musicians	To verify the frequency of poor sleep quality	Quantitative	Dimensions most frequently associated with sleep quality were ability to perform daily activities, ($p = 0.003$) work ($p = 0.004$), pain, discomfort ($p = 0.006$), satisfaction with personal relationships ($p = 0.007$) and ability to enjoy life ($p = 0.008$). The physical domain in quality of life analysis was the one with the highest explanatory power for sleep quality (34%).

To be continued

Chart 2 (concluded)

Author/country	Population	Objective	Study method	Main results
Barroso, 2013 ⁽²⁴⁾ Brazil	24 community health workers (CHW)	To assess the existence of burnout syndrome and the quality of life of CHW.	Quantitative	The perception that emotional state interferes in work presented a significant correlation with total score in the burnout scale ($p < 0.005$) and environmental aspects of quality of life ($p < 0.001$).
Silva, 2013 ⁽²⁵⁾ Brazil	284 workers of the electricity sector	To investigate the influence of quality of life and well-being dimensions on work; physical and security conditions, and relations.	Quantitative	Opportunities for use and development of their own competences were the main positive predictors for the three indicators considered. In the process of factor validation of the Organizational Dimensions Scale for Quality of Life and Well-Being at Work, Bartlett's sphericity test was significant ($p < 0.001$).
Oliveira, 2012 ⁽²⁶⁾ Brazil	19 students	To analyze work conditions of college professors in the health field and their implications on health and quality of life.	Qualitative	Absence of leisure with consequent sleep disorders, favoring psychic diseases; excessive work; significant changes in work organization, negatively influencing health and quality of life.
Membrive, 2011 ⁽²⁷⁾ Spain	203 climacteric women	To determine the association between professional activity and quality of life perceived by climacteric women.	Quantitative	Quality of life perceived by women during perimenopause who worked in the education field was higher than that of women working in the health field ($p = 0.004$).
Daubermann, 2012 ⁽²⁸⁾ Brazil	Eight nurses	To learn the concepts and experiences of nurses on quality of working life.	Qualitative	Broad concepts on quality of life and quality of working life were observed. The nurses were generally satisfied in those regards.
Padilha, 2009 ⁽²⁹⁾ Brazil		To analyze work precariousness factors in relation to workers' quality of working life.	Critical review	Quality of working life policies adopted in the businesses minimized work precariousness, but not the problem's structural causes.
Pomaki, 2011 ⁽³⁰⁾ Canada		To verify evidence on incapacity prevention interventions at the work place for workers with mental health problems.	Systematic Review	Access to treatment and interventions in the workplace could benefit workers with mental health problems.

Chart 3 – Description of articles on work capacity and disease prevention, according to author, country, population, objective, study method and main results, Campinas, São Paulo, Brazil, 2014

Author/country	Population	Objective	Study method	Main results
Costa, 2012 ⁽³¹⁾ Brazil	100 production line workers (34 men and 66 women)	To comparatively assess quality of life and work capacity of industrial workers.	Quantitative	Young men obtained higher scores for work capacity ($p = 0.016$), whereas women aged 30 - 39 presented the worst values for quality of life ($p = 0.027$), especially for the domains social relations and environment.

To be continued

Chart 2 (concluded)

Author/country	Population	Objective	Study method	Main results
Biallas, 2015 ⁽³²⁾ Germany	75 individuals (55 men and 20 women) of a medium-size company	To analyze the effects of health promotion at the workplace on work capacity and health related to quality of working life.	Quantitative	Promoting exercise in the context of occupational health promotion had a positive effect on quality of life and work capacity for workers.
Pizolato, 2013 ⁽³³⁾ Brazil	70 instructors	To investigate the impact of educational voice interventions on quality of life and voice for instructors.	Quantitative	Higher control and general scores in the quality of life instrument after preventive intervention.
Reinhardt, 2009 ⁽³⁴⁾ Brazil		To search literature for situations that might hinder disease prevention and other activities aimed at improving workers' health in the health sector.	Bibliographical review	Intervention programs with no theoretical basis; failure to assess intervention effectiveness; health surveillance restricted to diseases and specific harms; lack of commitment from management; communication gaps.
Groeneveld, 2010 ⁽³⁵⁾ Netherlands		To summarize evidence for an effect of interventions segmented by lifestyle at the workplace addressing the main biological risk factors for cardiovascular disease.	Systematic review	Effectiveness of lifestyle-based interventions at the workplace on body fat and for populations under risk of cardiovascular disease and body weight.
Rongen, 2012 ⁽³⁶⁾ Netherlands		To study the effectiveness of health promotion programs at the workplace.	Systematic review	Partially determined by characteristics of intervention and analysis.

DISCUSSION

Seeking better understanding of analysis and discussion, data were grouped according to the following subthemes: physical activities and health care, mental demands of work (sleep, interpersonal relations, stress, psychological state) and work capacity and disease prevention.

Physical activities and health care

In this theme, 11 studies conducted in a variety of countries were found. These studies pointed to physical activities and health care as methods for QoWL intervention.

The use of physical activities for health promotion and consequent QoWL improvement was verified through research conducted in Finland with women during menopause, observing an increase in mental resources and decrease in physical effort⁽¹⁶⁾. In the state of Paraná, Brazil, a study sought to investigate determinant factors for QoL after three months of a workers' health promotion program carried out through physical activities at the workplace and counseling. It was concluded that factors that interfered on QoWL were: practice of physical activity with aesthetic objectives, physical condition, smoking, physical activity for medical reasons, time sitting down, family life, sleep quality and income⁽¹²⁾.

Studies point to use of a variety of activities for improving QoWL. Exercises for body posture improvement⁽¹³⁾, walking⁽¹⁴⁾, and Hatha Yoga⁽¹⁵⁾. Hatha Yoga was mentioned in a

study conducted in Australia as a method to improve flexibility, anxiety and workers' musculoskeletal development⁽¹⁵⁾.

Obesity is a serious public health problem with worldwide prevalence⁽³⁷⁾. This emphasizes the importance of introducing programs aimed at weight loss, with the objective of improving workers' health, productivity and self-esteem. Research conducted in Australia sought to conduct intervention through sessions of education, physical activity for overweight and obese men at an aluminum company, observing that in 14 weeks, there was an average loss of 4.4 kg⁽¹⁸⁾.

Confirming previous research, in the interior of the state of São Paulo, Brazil, a program was established with the same aims of the research conducted in Australia, but with the introduction of healthy foods in the company's restaurant, so that workers would acquire healthy habits and apply them outside the work environment⁽³⁸⁾.

Healthy habits acquired through correct information at the work environment will enable workers to feel more energetic, healthy and that the company worries about their well-being.

Mental demands of work (sleep, interpersonal relations, stress, psychological state)

After reading their articles, eight studies stood out. They mentioned mental demands of work, such as sleep, interpersonal relations, stress and psychological state.

Study conducted in the state of Rio Grande do Sul, Brazil, aimed to identify the frequency of low quality sleep and QoL

perception in a group of orchestral musicians. It demonstrated high frequency of low quality sleep, thus demanding intervention that makes it possible to improve this situation⁽²³⁾. Confirming the study conducted in the state of Rio Grande do Sul, a study conducted in the state of Espírito Santo identified sleep disorders favoring psychic diseases in university professors⁽²⁶⁾.

Another study was conducted with workers of the electricity sector in six Brazilian states. It aimed to investigate the influence of QoL dimensions and well-being at the workplace (wages and benefits; opportunities for use and development of their own competences; physical and safety conditions at the workplace; relationship and communication between supervisors and workers; interpersonal relations with work colleagues) on their indicators (affective organizational commitment, work satisfaction, positive affection toward work), evidencing that opportunities for use and development of their own competences were the main positive predictors for the three indicators considered.⁽²⁵⁾

A critical review carried out in the interior of the state of São Paulo analyzed work precariousness factors in relation to QoWL, mentioning that work is a "game of strengths" controlled by the interests of employers and that QoWL policies adopted in companies could momentarily alleviate some symptoms, but not the structural causes of the problems⁽²⁹⁾.

Stressful factors at the workplace, lack/inadequate material, human and environmental resources, as well as the established work process were evidenced in research with primary care nurses in the interior of the state of São Paulo, Brazil. However, generally, research subjects claimed to be satisfied regarding their QoWL⁽²⁸⁾.

Work capacity and disease prevention

In this theme, six studies conducted in different countries addressing work capacity and disease prevention were identified.

Work capacity is an important indicator of functional aging and worker safety, because it involves aspects related to physical health, psychosocial well-being, individual competence as well as work conditions and organization⁽³⁹⁾. Research conducted in the interior of the state of São Paulo sought to compare QoL and work capacity in industrial workers, observing that young men had the highest scores for work capacity, whereas women aged 30 - 39 presented the worst QoL scores⁽³¹⁾.

In Germany, a study verified the effects of health promotion through physical activities at the workplace on work capacity and health related to the QoL of workers at a medium-sized company. It was found that encouraging exercise in the context of occupational health promotion had a positive effect on QoL and work capacity of workers, thus, it is beneficial both for individuals and companies⁽³²⁾.

Considering these studies, it can be concluded that programs for occupational health promotion aim to improve lifestyles and, consequently, health, work capacity and work productivity⁽³⁶⁾.

Nonetheless, there are situations than can hamper interventions for accident and disease prevention or workers'

health promotion, such as: intervention programs without good theoretical bases; inadequate evaluation of intervention effectiveness; health surveillance restricted to diseases and specific harms; management's lack of commitment to interventions; communication gaps; lack of workers' participation and control over the workplace; and programs and interventions based exclusively on changes in workers' behavior⁽³⁴⁾.

Regarding interventions aimed at preventing pathologies, a study conducted in Finland demonstrated that interventions segmented by lifestyle (to increase physical activity and/or diet improvement) at the workplace, considering the main risk factors for cardiovascular disease, benefited the population at risk, with a decrease in body weight⁽³⁵⁾.

An intervention study in the interior of the state of São Paulo, Brazil, with instructors, aimed to apply an instrument for vocal QoL assessment before beginning a prevention program for voice disorders, with vocal training exercises and instructions about vocal hygiene habits. After three months of activities, the questionnaire was applied again resulting in higher control and general scores for vocal QoL after the preventive intervention⁽³³⁾.

The introduction of flexible work hours can be beneficial for health. In the United Kingdom, a study sought to assess the effects (benefits and drawbacks) of this kind of work on physical, mental and general health, as well as the collaborators' well-being, observing that it has a positive effect on health⁽⁴⁰⁾.

A limitation of this study is the number of review articles and clinical trials, with few publications resulting from programs focused on workers' quality of life in comparison to the large number of existing companies. We believe that nurses who work in corporative institutions can establish and monitor programs focused on QoWL, with the aim of offering health for workers.

CONCLUSION

The research enabled the identification of some aspects that have been affecting the researched theme, and scientific evidence from QoWL interventions point to the importance of assertive interventions at the workplace.

In relation to workplace interventions focused on encouraging physical activities and health care, it was found that physical activities, body posture improvement exercises, walks, Hatha Yoga, workplace exercises, and programs aimed at reducing body weight improve health, self-esteem, and productivity, offering benefits for workers' health.

Mental demands of work, such as low quality sleep and an inadequate work environment, can be improved through specific interventions that foster health and well-being.

Interventions focused on work capacity promotion and disease prevention have beneficial effects for workers when they are planned, established and evaluated.

There is a very small number of programs focused on workers' well-being in comparison to the number of companies worldwide. The establishment of effective policies – structured, with defined goals – at companies could improve this situation.

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