# FACTORS OF ILLNESSES OF HEALTH WORKERS: INTEGRATIVE REVIEW

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#### **ABSTRACT**

This study aims to identify and describe the illnesses factors of health workers. It is an integrative review of the literature which used for the selection of the studies the Latin American and Caribbean literature databases in health sciences and biomedical literature ciattions and abstracts. The descriptors/keywords/MesHterms were: "Health Workers", "Health Professional", "Occupational Diseases" and "Working Conditions" and the corresponding in English "Health Personnel AND"Occupational Diseases" AND"Working Conditions". The Boolean operators adopted in the strategies were "and" and "or", in the period from 2012 to 2015. They composed the corpus of analysis 20 studies. Of the analysis emerged the categories: factors of the illness of the workers; and strategies to promote health and minimize illness. It is concluded that health workers are exposed to situations of the work environment that can compromise their psychological, physical and emotional health, being important to identify strategies to minimize the factors of illness in these workers.

Keywords: Health personnel. Occupational diseases. Working conditions.

#### INTRODUCTION

With the expansion and development of the economy and technologies, the organizational and structural context that makes up the daily routine of work in society can lead to both benefits, and to produce problems for the worker's health worker<sup>(1)</sup>.

In Brazil, the concern with the worker and the environment in which he works has gained prominence since the Law no. 8080/90, which has on the conditions for the promotion, protection and recovery of health, being one of the objectives and assignments the execution of health actions of the worker, which includes, among others, the control of potential risks and harms to health existing in the work process and assessment of the impact that technologies cause to health(2). It is also noted, in the national picture, the publication of laws, such as the one governing the national health policy of the worker and the Workers (PNSTT), existing since 2012, which aims to define the principles, guidelines and strategies for the development of whole attention to the worker's health<sup>(3)</sup>.

It is known that workers, particularly those of

the health field, are exposed to some situations inherent in the employment context, such as work overload, insufficient human resources, blood contact and secretions, fragility in working relationships, which exposes them to Illness physical and psychic, making it important to investigate the related factors. The national agenda of Health Research priorities signals this, highlighting the subagenda health, environment, work and biosafety, which, in the item on the impact of the restructuring of the work on health, cites the need for studies on aggravations, including the diseases arising from work overload, exposure to risk factors, among others<sup>(4)</sup>.

Thus, this study aimed to identify and describe the illness factors of health workers.

# **METHOD**

This is an integrative review<sup>(5)</sup> with the following research question: What factors interfere with the illness of health workers?

The bibliographic survey was held in the period from June to August 2016 in the Latin American and Caribbean literature databases in Health

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sciences (LILACS) and biomedical literature Ciattions and Abstracts (PUBMED). It was chosen to use the advanced form with the following key words/keywords/MesHterms: "Health Workers", "Health Professional", "Occupational Diseases" and "Working Conditions" and the corresponding in English "Health Personnel" AND "Occupational Diseases" AND "Working Conditions". The Boolean operators adopted in the strategies were "and" and "or", with temporal clipping in the period from 2012 to 2015.

The selection of the studies was carried out through the reading of titles and abstracts, using as inclusion criteria: articles of primary studies available in full and studies available online in English, Portuguese or Spanish. Exclusion criteria were: theses, dissertations, projects and primary studies not characterized as research.

In the LILACS database 98 abstracts were obtained. Of these, 89 did not meet the established criteria, resulting in nine publications for analysis. In PUBMED, the search resulted in 696 publications, being excluded 568 from the insertion of the filters "free full text", "humans" and "English". From the 128 studies identified, 117 publications were excluded, resulting in 11 studies.

Through the exhaustive reading of the texts in full, it was possible to extract the information of the selected articles, systematizing them in a table prepared by the authors of this manuscript that addressed the title of the study, year, main results and conclusions. Data were analyzed according to the thematic analysis<sup>(7)</sup>.

#### **RESULTS**

We analyzed 20 articles, which constituted the corpus of analysis, being classified into levels of evidence<sup>(6)</sup>, which are determined according to the methodological characteristics. For this study, three articles were classified in level IV, which corresponds to evidence from well delineated cohort and case-control studies; one article at level V, which is evidence originating from a systematic review of descriptive and qualitative studies; and 16 at level VI, corresponding to evidence derived from a single descriptive or qualitative study. The largest number of publications was identified in Portuguese language, with nine publications followed by nine in English and two in Spanish

As for the methodological approaches, six publications used a qualitative approach, there were 13 publications with a quantitative approach and one with a qualiquantitative approach. Table 1 presents some information from the articles.

The studies were grouped into two categories: workers' sickness factors; and strategies to promote health and minimize illness. Regarding the workers' illness factors, precarious work conditions, work environment, multi-employment, biological risks, chemical exposure and physical manipulation of large loads were identified<sup>(8,9)</sup>. As health problems, gastritis, obesity, sleep disturbances and impairment, hypertension and musculoskeletal disorders were identified<sup>(10)</sup>; as emotional damage: depression and anxiety<sup>(11)</sup>, burnout syndrome<sup>(12,13)</sup>, lack of recognition and support at work, institutional rigidity and suffering due to the death of patients<sup>(14)</sup>.

Other studies have shown the need for adequacy of the number of professionals $^{(15)}$ , respiratory and dermal exposure to latex $^{(16)}$ , absenteeism due to illness $^{(17)}$ , mental disorders $^{(18)}$  and voice disturbances $^{(19)}$ .

Work-related diseases are illness factors that can influence the workload and personal life of health workers, and strategies are needed to promote health and minimize illness. Research<sup>(20)</sup> performed with the nursing team of a renal clinic identified as a strategy to reduce exposure to occupational risks the availability and demand of the use of personal protection equipment by the supervisors, continuing education, work gymnastics, furniture suitable for procedures and the largest number of workers to reduce ergonomic risks.

A study<sup>(21)</sup> carried out with workers of the intensive care unit nursing team identified as strategies to avoid the banalization of suffering and escape from psychic suffering the search for individual and/or collective spaces that offer a qualified listening, giving a new meaning to the work. Emphasis was placed on greater flexibility of prescribed standards.

In order to deal with stress and possible work-related syndromes, such as burnout, strategies were identified as the need for training of the heads of the professionals<sup>(22)</sup>, music therapy<sup>(23)</sup>, awareness of the psychosocial risks related to worker exposed to different work shifts<sup>(24)</sup>, the establishment of programs for the prevention of musculoskeletal disorders<sup>(25)</sup> and the improvement of working environments<sup>(26)</sup>.

No	Data	es included in the study  Journal	Article title	Year	Methodology
110	base				3.
1	Lilacs	RevistaGaúcha de Enfermagem	Context of work, pleasure and suffering in basic health care	2015	Quantitative
2	Lilacs	Saúde e Sociedade	The contradictory right to health of persons in deprivation of liberty: the case of a prison unit in Minas Gerais	2014	Qualitative
3	Lilacs	Revista de Salud Pública	Working conditions and environment in provincial public hospitals of the city of Córdoba, Argentina	2013	Quantitative
4	Lilacs	Revista Psicologia Organizações e Trabalho	Mental health and nature of work: when emotional demands are inevitable	2014	Qualitative/ Quantitative
5	Lilacs	Rev. pesqui. cuid. fundam.(Online)	The dialysis unit as a risk exposure scenario	2014	Qualitative
6	Lilacs	Revista Psicologia Organizações e Trabalho	Psychological distress of intensive care unit workers	2012	Qualitative
7	Lilacs	Psicol. ciênc.prof.	Psychological illnesses of intensive care unit workers	2013	Quantitative
8	Lilacs	Revista Brasileira de Enfermagem	Impact of a music therapy program on the level of stress of health professionals	2013	Quantitative
9	Lilacs	Ciência & Saúde Coletiva	Latex sensitivity and specific antibody dosage in healthcare professionals	2012	Qualitative
10	Pubmed	J Am Coll Cardiol.	Occupational health hazards of working in the interventional laboratory a multisite case control study of physicians and allied staff	2015	Qualitative
11	Pubmed	J Occup Health	Cross-sectional study of anxiety disorder among doctors	2012	Quantitative
12	Pubmed	J Occup Health	Changes in psychosocial work conditions in taiwanese employees by gender and age from 2001 to 2010	2013	Quantitative
13	Pubmed	BMC MusculoskeletalDisorders	Prevalence and risk factors for foot and ankle musculoskeletal disorders experienced by nurses	2014	Quantitative
14	Pubmed	Rev Saúde Pública	Absenteeism in nursing workers	2012	Quantitative
15	Pubmed	Acta Medica Iranica	Association between social capital and burn out in Nurses of a Trauma Referral Teaching Hospital	2015	Quantitative
16	Pubmed	BMC Women's Health	Reproductive health and burn-out among female physicians: nationwide, representative study from Hungary	2014	Quantitative
17	Pubmed	Global Journal of Health Science	Assessment of sick building syndrome and its associating factors among nurses in the educational hospitals of shahidsadoughi university of medical sciences, yazd, iran	2015	Quantitative
18	Pubmed	Ijomeh	Latex allergy in thai nurses	2014	Quantitative
19	Pubmed	Occupational medicine	Working conditions and common mental disorders	2013	Quantitative
20	Pubmed	CoDAS	Relationship between voice disorder and work in a group of Community Health Agents	2013	Qualitative

# **DISCUSSION**

The structuring of capitalist relations may be linked to the sickness of health workers. These experience the aggravating effects on health and the illness has unique characteristics to their work activity<sup>(27)</sup>. In the health area, the actual work does not depend exclusively on the competence and commitment of the worker, since it is involved in

the working conditions and in the interaction with those who receive  $care^{(28)}$ .

Studies<sup>(8,9,10,11)</sup> describe the working conditions of professionals and the various factors that can lead to illness in the workplace, such as exposure to biological, chemical and excessive physical hazards. Some health problems such as gastritis, obesity, back pain, sleep disorders, high blood pressure, high emotional demands with negative effect on workers'

mental health<sup>(10)</sup>, possible symptoms of depression<sup>(11)</sup>, poor recognition and job support and institutional rigidity<sup>(14)</sup>.

Health workers in general are exposed to disease-causing agents, a fact that makes it necessary to know about individual and collective protection measures and the development of health promotion policies for this population<sup>(20)</sup>. Acting in the midst of unfavorable risks and conditions directly influences physical and mental health, causing stress and injury to work. This condition occurs because the activities performed by them demand attention and responsibility, causing the psychosocial factors triggered by the activities that condition the onset of stress at work<sup>(29)</sup> and other diseases.

About this, study<sup>(15)</sup> investigated the occurrence of the latex sensitivity reaction in dentists, medical and nursing students from a federal university. It was identified that the knowledge about the number of professionals who present this complaint in the work environment can show the necessity of the adequacy of the same. Another study<sup>(16)</sup> aimed to determine the prevalence of latex sensitization in nurses and to identify risk factors associated with sensitization, and concluded that respiratory exposure seems to play an important role in addition to dermal exposure, indicating that, if the gloves of latex cannot be replaced by non-latex alternatives, replacement of gloves with lower protein content should be considered.

On radiation, research<sup>(30)</sup> with professionals who were in daily contact with the radiation in their work environment identified that the musculoskeletal pain varied significantly according to the description of the work, the highest incidence reported by technicians (62%), and nurses (60%), followed by attending physicians (44%) and trainees (19%, p <0.001). There was no statistical difference in the prevalence among the groups regarding cancer (p = 0.96).

A study<sup>(13)</sup> that aimed to describe the reproductive health of physicians identified that burnout syndrome is associated with the development of reproductive disorders, emphasizing that exhaustion is an important risk factor for high-risk pregnancies and spontaneous abortions.

Research<sup>(18)</sup> aimed at assessing the prevalence of common mental disorders (CMDs) and their associated factors in a group of physicians from a public health unit showed that CMDs can be

developed by workers in daily practice due to dissatisfaction excessive commitment to work. Regarding this, the authors point out that one of the factors contributing to the sickness of workers is the overload of work, with complaints of fatigue and lack of time for activities such as rest, leisure, physical activities, and other health care<sup>(27)</sup>.

Research<sup>(17)</sup> that aimed to analyze the factors associated with self-reported illness in nursing workers identified the relationship of more than one job and musculoskeletal diseases. A study identified that activities performed in more than one place contribute significantly to the overload in the work of nursing workers, and the intensification of work generates overload and ethical crisis between the values and questions of health professionals<sup>(14)</sup>.

Regarding the ethical issues involved in health care, it is mentioned that situations in which the technical procedure is considered less complex, since it does not involve emotional demands in its execution, make the worker to look at an ethical and almost mechanical posture as strategy for not absorbing psychic demands for their personal life, in an attempt to preserve their well-being<sup>(5)</sup>.

Research<sup>(19)</sup> carried out with a group of Community Health Agents (ACS) aimed to analyze the relationship between the voice disorder and the work. It was observed that 56.9% of the authors referred to present and/or past voice disorders, with the most frequent vocal symptoms being dry throat (40 - 61.5%), speech fatigue (35-53.9%) and sore throat (33 - 50.8%).

As strategies to favor workers' health, there is more qualified listening, support, encouragement, communication. discussion of problems. of norms flexibilization prescribed reorganization of some procedures based on the suggestions of the workers themselves<sup>(31)</sup>. Thus, it is necessary to look at the factors of illness, since these aspects perpass in the work routine, which signals the importance of preventing the risks that workers face in their daily work life<sup>(27)</sup>. In this sense, strategies are necessary so that the worker is not affected by diseases that already have their known risk factors through scientific research.

It is believed that the physical work environment should provide comfort and well-being to the workers, promoting their health, since this can become an aggressive element to the person when constituted by risks<sup>(31)</sup>. The objective of this study was to identify the health professionals' conceptions

of a dialysis unit about the risks they were exposed to and found the risk of exposure to biological agents blood and secretions, chemical risk related to products used for material sterilization/disinfection and machines, ergonomic risks related to complaints of back pain, especially in the lower back, and problems with machine noise. From the data found, strategies were developed to reduce risks, which involved the adequate use of personal protective equipment, care of body posture and the availability of adequate furniture<sup>(32)</sup>.

Night work makes it difficult for the body to recover<sup>(14)</sup>, since during the day the professionals take on other activities, both personal and professional. It is also argued that night sleep of workers is hampered by the light and the noise of workplaces. On this, a study<sup>(24)</sup> conducted in Taiwan with more than 60,000 workers signals the need to raise public awareness about the consequences of shift work in different genders.

Work-Related Musculoskeletal Disorders (DORTs) are a public health problem that has a great impact on the world scenario, as they may have consequences for the individuals affected, such as temporary or permanent disabilities that have altered the organizational structure of the institution to which they belong<sup>(31)</sup>. A study<sup>(25)</sup> performed with hospital nurses with musculoskeletal injuries in the foot and ankle suggests that prevention-oriented education programs, self-management strategies and treatment of musculoskeletal foot/ankle diseases are implanted. DORTs have a high rate of relapse and can generate disabilities that compromise both the work activities and the quality of life of many nursing professionals<sup>(32)</sup>.

Study<sup>(22)</sup> on the stress of nursing workers suggests the planning of training of the heads in order to improve the reception/referral in the stress situations of the professionals. The fact that the worker is usually able to handle a certain workload, and under certain conditions, does not mean that he can always maintain the same pace and context without harm to his health<sup>(32)</sup>.

A study<sup>(21)</sup> that aimed to understand the defensive strategies used by intensive care unit health workers identified the banalization of suffering, rationalization and escape, which may

mean resistance in recognizing one's own pain and suffering when the expression of these feelings may represent an embarrassing situation. Research<sup>(23)</sup> aiming to verify the effects of a music therapy program on the level of stress of health professionals identified as effects a statistical decrease in the perception of stress after the session of music therapy, which proves to be an important tool for minimizing the day-to-day stress of health professionals.

Research<sup>(26)</sup> points out the need to improve working environment conditions, such as increasing the efficiency of the air conditioning system, increasing the fresh air flow in the sector, which contributes to reduce the workload of nurses and improve the quality of life at work.

Finally, it is important to develop strategies for the maintenance, promotion and recovery of workers' health, which provides job satisfaction<sup>(34)</sup>. Workers satisfied with their work environment tend to carry out their work activities with more attention, acceptance and cordiality, contributing to the humanization of team and user relationships<sup>(32)</sup>.

# **CONCLUSION**

The results conclude that the health work carried out in unhealthy environments brings psychological, physical and emotional repercussions, characterizing the health damages of these professionals, which can be manifested through the absence of motivation and sickness of the worker, which may compromise the quality of life and the assistance provided. On the other hand, strategies have also been identified to minimize the factors of illness of these workers, which can be developed in various work environments.

As a limitation of the study, one can cite the nonuse of more specific words and descriptors, especially related to a particular profession, which may have contributed to the reduced selection of studies.

It is hoped that the results of the research may support the planning of preventive measures in clinical practice aimed at improving the working conditions of health workers, as well as generate data for future studies on the subject.

# FATORES DE ADOECIMENTO DOS TRABALHADORES DA SAÚDE: REVISÃO INTEGRATIVA RESUMO

Este estudo tem como objetivos identificar e descrever os fatores de adoecimento dos trabalhadores da saúde. Trata-se de uma revisão integrativa de literatura que utilizou para a seleção dos estudos as bases de dados Literatura Latino-Americana e do Caribe em Ciências da Saúde e Biomedical Literature Ciattions and Abstracts. Empregaram-se os descritores/palavras-chave/MesHterms: "Trabalhadores de Saúde", "Profissional da saúde", "Doenças ocupacionais" e "condições de trabalho" e os correspondentes em inglês health personnel AND occupational diseases AND working conditions. Os operadores boolianos adotados nas estratégias foram "and" e "or", com recorte temporal no período de 2012 a 2015. Compuseram o corpus da análise 20 estudos. Da análise emergiram as categorias: fatores do adoecimento dos trabalhadores; e estratégias para promover a saúde e minimizar o adoecimento. Conclui-se que os trabalhadores da saúde estão expostos a situações do ambiente laboral que podem comprometer a sua saúde psicológica, física e emocional, sendo importante identificar estratégias para minimizar os fatores de adoecimento nesses trabalhadores

Palavras-chave: Trabalhadores de saúde. Doenças ocupacionais. Condições de trabalho.

# FACTORES DE ENFERMEDAD DE LOS TRABAJADORES DE LA SALUD: REVISIÓN INTEGRADORA

#### RESUMEN

Este estudio tiene como objetivos identificar y describir los factores de enfermedad de los trabajadores de la salud. Se trata de una revisión integradora de literatura que utilizó para la selección de los estudios las bases de datos Literatura Latino-Americana y del *Caribe em Ciências da Saúde y Biomedical Literature Ciattions and Abstracts*. Se emplearon los descriptores/palabras clave/MesHterms: "Trabajadores de Salud", "Profesional de la salud", "Enfermedades ocupacionales" y "condiciones de trabajo" y los correspondientes en inglés *health personnel* AND *occupational diseases* AND *working conditions*. Los operadores booleanos adoptados en las estrategias fueron "and" y "or", con recorte temporal en el período de 2012 a 2015. Compusieron el corpus del análisis 20 estudios. Del análisis surgieron las categorías: factores de enfermedad de los trabajadores; y estrategias para promover la salud y disminuir la enfermedad. Se concluyó que los trabajadores de la salud están expuestos a situaciones del ambiente laboral que pueden comprometer a su salud psicológica, física y emocional, siendo importante identificar estrategias para reducir los factores de enfermedad en estos trabajadores.

Palabras clave: Trabajadores de salud. Enfermedades ocupacionales. Condiciones de trabajo.

#### REFERENCES

- 1. Almeida MCV, Cezar-vaz MR, Soares KFS, Silva MRS. Prevalência de doenças musculoesqueléticas entre trabalhadores portuários avulsos. Rev. Latino-Am. Enferm [online]. 2012; 20(2):08 telas. Disponível em: http://www.scielo.br/pdf/rlae/v20n2/pt\_05.pdf
- 2. Ministério da Saúde (BR). Lei nº. 8080/90, de 19 de setembro de 1990. Dispõe sobre as condições para a promoção, proteção e recuperação da saúde, a organização e o funcionamento dos serviços correspondentes e dá outras providências. Brasília: (DF). 1990 [online] . Disponível em: https://www.planalto.gov.br/ccivil\_03/LEIS/L8080.htm.
- 3. Ministério da Saúde (BR). Portaria n.1823, de 23 de agosto de 2012. Institui a Política Nacional de Saúde do Trabalhador e da Trabalhador. Brasília (DF), 2012. [online]. Disponível em: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2012/prt1823\_23\_08\_2012. html
- 4. Ministério da Saúde (BR). Agenda nacional de prioridades de pesquisa em saúde: Brasil. Brasília (DF); 2015.
- 5. Mendes KDS, Silveira RCCP, Galvão C M. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. Texto Contexto Enferm [online]. 2008 mar; 17(4):758-64. Disponível em:

http://www.scielo.br/pdf/tce/v17n4/18.pdf

- 6. Melnyk BM, Fineout-Overholt E. Making the case for evidence-based practice. In: Melnyk BM, Fineout-Overholt E. Evidence-based practice in nursing & healthcare: a guide to best practice. Philadelphia: Lippincot Williams & Wilkins; 2005. p.3-24.
- Minayo MC de. O desafio do conhecimento: pesquisa qualitativa em saúde. São Paulo: Hucitec; 2014.
- 8. Maissiat GS, Lautert L, Dal Pai D, Tavares JP. Contexto de trabalho, prazer e sofrimento na atenção básica em saúde. Rev Gaúcha Enferm [online]. 2015; 36(2):42-49. Disponível em: http://seer.ufrgs.br/index.php/RevistaGauchadeEnfermagem/article/view/51128
  - 9. Martins ELC, Martins LG, Silveira AM, Melo EM. O

contraditório direito à saúde de pessoas em privação de liberdade: o caso de uma unidade prisional de Minas Gerais. Saúde Soc [online]. 2014; 23(4):1222-34. Disponível em:

http://www.scielo.br/pdf/sausoc/v23n4/0104-1290-sausoc-23-4-1222.pdf

10. Acebedo GE, Farias MA, Sanchez JM, Astegiano C, Buffa G, Alvarez Loyaute G, Demaria MJ, Fernandez AR. Condiciones y medio ambiente de trabajo em hospitales públicos provinciales de laciudad de Córdoba, Argentina. Rev Salud Púb [online]. 2013; 27(4):8-20. Disponível em:

https://revistas.unc.edu.ar/index.php/RSD/article/view/6847/7925

- 11. Ansoleaga E, Toro JP. Salud mental y naturaleza del trabajo: cuandolas demandas emocionales resulta ninevitables. Rev Psicol: Organ Trab [online]. 2014; 14(2):180-189. Disponível em: http://pepsic.bvsalud.org/scielo.php?script=sci\_arttext&pid=S1984-66572014000200005
- 12. Wei S, Fu J, Chang Y, Wang L. Epidemiological study on risk factors for anxiety disorder among chinese doctors. J Occup Health [online]. 2012; 54(54):1-8. Disponível em: https://www.jstage.jst.go.jp/article/joh/54/1/54\_11-0169-OA/\_pdf/char/en
- 13. Győrffy Z, Dweik D, Girasek E. Reproducctive health and burnout among female physicians: nationwide, representative study from Hungary. BMC Women's Health [online]. 2014 oct.; 14. Disponível em: https://bmcwomenshealth.biomedcentral.com/track/pdf/10.1186/1472-6874-14-121?site=bmcwomenshealth.biomedcentral.com
- Monteiro JK. Sofrimento psíquico de trabalhadores de unidade de terapia intensiva. Rev Psicol: Organ Trab [online]. 2012; 12(2):245-50.
   Disponível em:

http://pepsic.bvsalud.org/scielo.php?script=sci\_arttext&pid=S1984-66572012000200009

15. Gomes MJ, Barbosa RS, Dias FP, Carvalho RB, Oliveira ERA, Hebling E. Sensibilidade ao látex e dosagem de anticorpos específicos em profissionais da área da saúde. Ciênc Saúde Coletiva [online]. 2012; 17(2):351-58. Disponível em:

http://www.scielo.br/scielo.php?script=sci\_arttext&pid=S1413-81232012000200009

- 16. Supapvanich C, Povey A, Vocht F. Latex sensitization and risk factors in female nurses in Thai governmental hospitals. Int J Occup Med Environ Health [online]. 2014; 27(1):93-103. Disponível em: https://link-springer-com.ez79.periodicos.capes.gov.br/article/10.2478/s13382-014-0230-7
- 17. Ferreira RC, Griep RH, Fonseca MJM, Rotenberg L. Absenteísmo em trabalhadores de enfermagem. Rev Saúde Pública [online]. 2012; 46(2):259-68. Disponível em: http://www.redalyc.org/pdf/672/67240197008.pdf
- 18. Assunção AÁ, Machado CJ, Prais HAC, Araújo TM. Working conditions and common mental disorders in physicians in Brazil. Occup Med [online].2013; 63:234–237. Disponível em: https://academic.oup.com/occmed/article/63/3/234/1414696/Working-conditions-and-common-mental-disorders-in
- 19. Cipriano FG, Ferreira LP, Servilha EAM, Marsiglia RMG. Relação entre distúrbio de voz e trabalho em um grupo de agentes comunitários de Saúde. CoDAS [online]2013; 25(6):548-56. Disponível em:

 $\label{eq:https://pdfs.semanticscholar.org/b0a0/876cf4b8a9d81e493187792347b70179467c.pdf} https://pdfs.semanticscholar.org/b0a0/876cf4b8a9d81e493187792347b70179467c.pdf$ 

- 20. Morais EM, Fontana RT. Dialytic unit as a scenario of exposure to risk. Rev Pes: cuid fund [online]. 2014; 6(2): 539-49. Disponível em: http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/264 8/pdf\_1239
- 21. Monteiro JK, Oliveira ALL, Ribeiro CS, Grisa GH, Agostini N. Adoecimento psíquico de trabalhadores de Unidades de Terapia Intensiva. Psicol Ciênc e Prof [online]. 2013; 33(2):366-79, 2013. Disponível em: http://www.redalyc.org/html/2820/282027993009/
- 22. Frahbod F, Chegini MG, Eramsadati LK, Mohtasham-Amiri Z. The association between social capital and burnout in nurses of a trauma referral teaching hospital. Acta Med Iranica [online]. 2015; 53(4):215-19.
- 23. Taets GGC, Borba-Pinheiro CJ, Figueiredo NMA, Dantas EHM. Impacto de um programa de musicoterapia sobre o nível de estresse de profissionais de saúde. Rev Bras Enfermagem [online]. 2013; 66(3):385-90. Disponível em: http://www.redalyc.org/html/2670/267028667013/
- 24. Cheng Y, Chen IS, Burr H, Chen CJ, Chiang TL. Changes in psychosocial work conditions in taiwanese employees by gender and age from 2001 to 2010. J Occup Health. 2014; 55(5):323–332.
- 25. Reed LF, Battistutta D, Young J, Newman B. Prevalence and risk factors for foot and ankle musculoskeletal disorders experienced by nurses. BMC Musculoskel Dis [online] . 2014. Disponível em: https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/147 1-2474-15-196
- 26. Vafaeenasab MR, Morowatisharifabad MA, Ghaneian MT,3 Hajhosseini M, Ehrampoush MH. Assessment of sick building syndrome and its associating factors among nurses in the educational hospitals of shahid sadoughi University of Medical Sciences, Yazd, Iran. Glob J of

- Health Sci [online]. 2015; 7(2):247-53. Disponível em: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4796380/
- 27. Rosato IVM, Russo GAR, Maia EMC. Produzir saúde suscita adoecimento? as contradições do trabalho em hospitais públicos de urgência e emergência. Ciênc Saúde Colet [online]. 2015; 20(10):3021-32. Disponível em: http://www.scielo.br/pdf/csc/v20n10/1413-8123-csc-20-10-3021.pdf
- 28. Brotto TCA, Dalbello-Araújo M. É inerente ao trabalho em saúde o adoecimento de seu trabalhador? Rev Bras Saúde Ocup [online] 2012; 37(126): 290-305. Disponível em:

http://www.scielo.br/scielo.php?script=sci\_arttext&pid=S0303-76572012000200011

29. Inoue KC, Versall LGS, Murassaki ACY, Melo WA, Matsuda LM. Estresse ocupacional em enfermeiros intensivistas que prestam cuidados diretos ao paciente crítico. Rev Bras Enferm [online]. 2013; 66(5): 722-29. Disponível em:

http://www.scielo.br/pdf/reben/v66n5/13.pdf

- 30. Orme MN, Orme NMRihal CS, Gulati R, Holmes DR Jr Lennon RJ, Lewis BR et al. Occupational health hazards of working in the interventional laboratory a multisite case control study of physicians and allied staff. J Am CollCardiol [online]. 2015; 65(8):820-6. Disponível em: https://www.ncbi.nlm.nih.gov/pubmed/25720626
- 31. Oliveira MM, Andrade SSCA, Souza CVA, Ponte JN, Szwarcwald CL, Malta DC. Problema crônico de coluna e diagnóstico de distúrbios osteomusculares relacionados ao trabalho (DORT) automeferidos no Brasil: pesquisa nacional de saúde, 2013. Epidemiol Serv Saúde [online]. 2015; 24(2): 287-96. Disponível em: http://www.scielo.br/pdf/ress/v24n2/2237-9622-ress-24-02-00287.pdf
- 32. Silva CDL, Pinto WM. Riscos ocupacionais no ambiente hospitalar: fatores que favorecem a sua ocorrência na equipe de enfermagem. Saúde Col em Debate [online]. 2012; 2(1): 62-69. Disponível em:

http://fis.edu.br/revistaenfermagem/artigos/vol02/artigo10.pdf

- 33. David HMSL, Mauro MYC, Silva VG, Pinheiro MAS, Silva FH. Organização do trabalho de enfermagem na Atenção Básica: uma questão para a saúde do trabalhador. Texto Contexto Enferm [online]. 2009; 18(2):206-14. Disponível em: http://www.scielo.br/pdf/tce/v18n2/02.pdf
- 34. Thofehrn, M. B., Montesinos, M. J. L., Jacondino, M. B., Fernandes, H. N., Gallo, C. M. C., & Figueira, A. B. Processo de trabalho dos enfermeiros na produção de saúde em um Hospital Universitário de Múrcia/Espanha/Work processes of nurses in health production in a University Hospital in Murcia/Spain. Ciên Cuid Saúde [online] . 2015; 14(1):924-32, 2015. Disponível em: http://periodicos.uem.br/ojs/index.php/CiencCuidSaude/article/view/2209

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