Psychosocial risk factors at work: evaluation methods and instruments

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Abstract

A documentary review was carried out on the production and publication of research papers concerning the study of the variables Psychosocial Risk Factors at Work, and the Evaluation Methods and Instruments. The purpose of the bibliometric analysis proposed in this document is to know the main characteristics of the volume of publications registered in Scopus database during the period 2015-2020 in Latin American countries, achieving the identification of 144 publications. The information provided by this platform was organized by means of graphs and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics were described, a qualitative analysis was used to refer to the position of different authors in relation to the proposed topic. Among the main findings of this research, it is found that Brazil, with 64 publications, is the Latin American country with the highest production. The Area of Knowledge that made the greatest contribution to the construction of bibliographic material referring to the Psychosocial Risk Factors at Work and the Methods and Instruments of Evaluation was Medicine with 90 published documents, and the Type of Publication that was most used during the period indicated above was the Journal Article that represents 86% of the total scientific production.

Keywords: Psychosocial Risk Factors, Occupational Risks, Evaluation Methods and Instruments.

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1. Introduction

For Martin Daza and Pérez Bilbao (1997), psychosocial risk factors can be defined as "those conditions that are present in a work situation and that are directly related to the organization, the content of the work and the performance of the task, and that have the capacity to affect both the well-being or health (physical, psychological or social) of the worker and the development of the work".

Every person who works in a company is at risk of having their physical and psychological integrity affected, due to different risk factors that can trigger so-called "occupational" diseases such as mental, cardiovascular or musculoskeletal problems (Benavides, et al., 2002). Among the psychosocial factors most mentioned in the literature is Work Stress which can generate psychopathological illnesses in workers such as: Depressive Disorder, Anxiety Disorder, Trauma or Stress-Related Disorder, Somatic Symptom Disorders, Sleep-Vigia Disorder, Sexual Dysfunctions, Burnout Syndrome or Burnt-out Man. The above illnesses are associated with constant exposure to occupational stress due to the absence of favorable conditions in the fulfillment of different functions in the company (Vassallo, 2012) .

The management that should be given to this type of situations commonly presented in work environments that, by their nature, represent an extra pressure on workers. There are intervention strategies that help in the promotion of occupational health, prevention of accidents and occupational diseases and occupational rehabilitation, in favor of the working population (Murillo, Suárez, & Moreno-Chaparro, 2020) . It has been shown that intervention in the early stages of a diagnosis of psychosocial disorder results in successful occupational rehabilitation as long as there is an improvement in the situation that led to the breakdown of the parties involved due to occupational stress. However, there are options for monitoring the psychosocial status of workers, such as the implementation of the Psychosocial Factors Questionnaire which has shown great consistency in assessing factors such as "Mental Workload", "Intrinsic Motivation" and Level of Fatigue" (Solanes, Tirado, & Martín del Río, 2004) . Therefore, it is of great importance to know the current state of the theory that frames the study of the variables proposed in this document, whose analysis allows to answer the question "How has been the production and publication of research papers on the variable Psychosocial Risk Factors at Work, in the Latin American context during the period 2015-2020?

2. General Objective

To analyze from a bibliometric and bibliographic perspective, the production of high impact research papers on the variable Psychosocial Risk Factors at Work and the Instruments and Methods of Evaluation in the Latin American context during the period 2015-2020.

Methodology

Quantitative analysis of the information provided by Scopus under a bibliometric approach on the scientific production concerning the variable Psychosocial Risk Factors at Work and the Instruments and Methods of Evaluation in the Latin American context during the period 2015-2020 is performed. Also, examples of some research papers published in the area of study mentioned above are analyzed from a qualitative perspective, from a bibliographic approach to describe the position of different authors on the proposed topic.
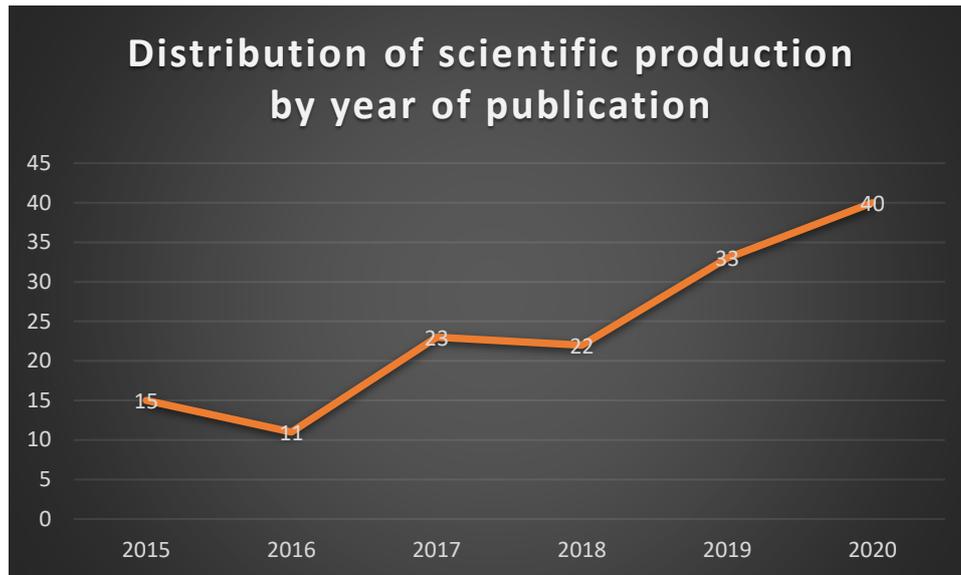
3.1 Methodological design

Table 1 shows the methodological design proposed for the development of this research.

Table 1. Methodological design

	PHASE	DESCRIPTION	CLASSIFICATION
PHASE 1	DATA COLLECTION	The data collection is carried out by means of the Search tool in the Scopus web page, where a total of 144 published documents are identified.	Published papers whose study variables are related to Psychosocial Risk Factors at Work and Evaluation Instruments and Methods. Research papers published during the period 2015-2020. Without distinction of type of research. Limited to Latin American countries without distinction of area of knowledge.
PHASE 2	CONSTRUCTION OF ANALYSIS MATERIAL	The information identified in the previous phase is organized. The classification will be done by means of graphs, figures and tables based on data provided by Scopus.	Year of publication Country of origin of the publication. Area of knowledge. Type of publication
PHASE 3	DRAFTING OF THE CONCLUSIONS AND FINAL DOCUMENT	After the analysis carried out in the previous phase, we proceed to the drafting of the conclusions and the elaboration of the final document.	

Source: Own elaboration

4. Results

4.1 Co-occurrence of words

Figure 1 below shows the use and frequency of keywords in the research identified in Phase 1 of the methodological design.

Figure 1. Co-occurrence of words

Source: Own elaboration (2021); based on data provided by Scopus.

The study of Psychosocial Risk Factors, as well as the methods and evaluation tools for them, is related to studies that address issues such as Occupational Health, Health Promotion, Risk Factors, Working Conditions, as shown in Figure 1. This allows inferring that, thanks to the implementation of research in different methodologies, it is possible to measure the impact of the various risk factors that may affect pathologies associated with work activity. Hence the importance of research on topics that are of great interest for the administration and for the workers, as it is about safeguarding the physical and mental integrity of all those who are directly related to the core business of the companies, i.e. administrative, operational and even managerial staff, which have also manifested in different studies, to be subjected to high levels of stress in the exercise of their functions, which leads to possible psychopathologies such as Depressive Disorder, Anxiety Disorder, Trauma or Stress Related Disorder, Somatic Symptom Disorders, Sleep-Vigia Disorder, Sexual Dysfunctions, Burnout Syndrome or Burnt Man (Vassallo, 2012) to name a few.

4.2 Distribution of scientific production by year of publication.

Figure 1 shows the historical evolution of scientific production volume on the variable Latin American Criminal Law.

Figure 2. Distribution of scientific production by year of publication.

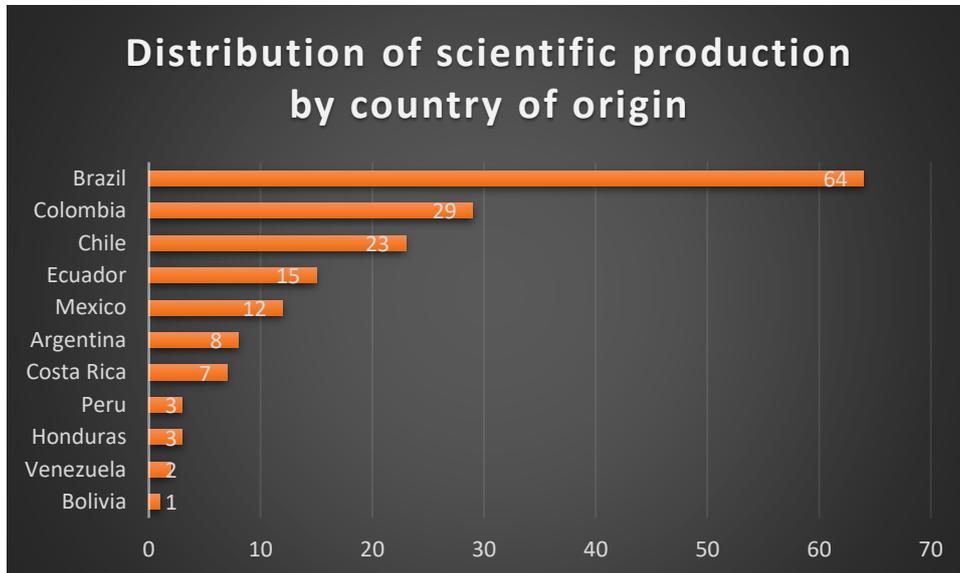**Source:** Own elaboration (2021); based on data provided by Scopus.

The year 2020 is the year in which the largest number of publications have been recorded in the Scopus database, a total of 40 documents were reported, among which is the article entitled "*Self-perceived health and psychosocial risk of salaried workers in Guayaquil, Ecuador*" (Gómez-García, Portalanza-Chavarría, Arias-Ulloa, & Espinoza-Samaniego, 2020). which aims to highlight the importance of the self-perception of workers in terms of health. The collection of this information is done through the application of forms with questions aimed at identifying possible pathologies both physical and mental that workers identify in their performance. For the administration it is vital to know this information because from there it is possible to manage a series of strategies aimed at improving working conditions in case of identifying failures in them.

In 2019, the second highest number of publications referring to the topic of study proposed in this paper was recorded. 33 publications within which is the one entitled "Associations between occupational factors and self-assessed health in the Brazilian national working population" (Oenning, De Goulart, Ziegelmann, Chastang, & Niedhammer, 2019). whose objective was to examine the associations of occupational factors with SRH in a nationally representative sample of the Brazilian working population. The study sample was 36,442 workers, 16,992 women and 19,450 men, who were studied through a follow-up and application of a series of questionnaires that allowed to establish that the improvement in working conditions reduces the risk of suffering some type of physical or mental pathology related to the exercise of work functions.

In 2018, 22 publications were recorded, among which is the article entitled "Psychosocial factors and coping strategies associated with stress in university teachers" (del Carmen, et al., 2018) which aims to describe the psychosocial risk factors that university teachers are faced with within the fulfillment of curricular plans. The study determines stress situations to which these professionals are exposed, in the management of large groups of students. For this reason, handling information from the analysis of working conditions for educational management is very important to apply feedback processes to support decision making.

4.3 Distribution of scientific production by country of origin.

Figure 3 below shows how the publication record is distributed according to the country of origin of the institutions through which the publication was made.
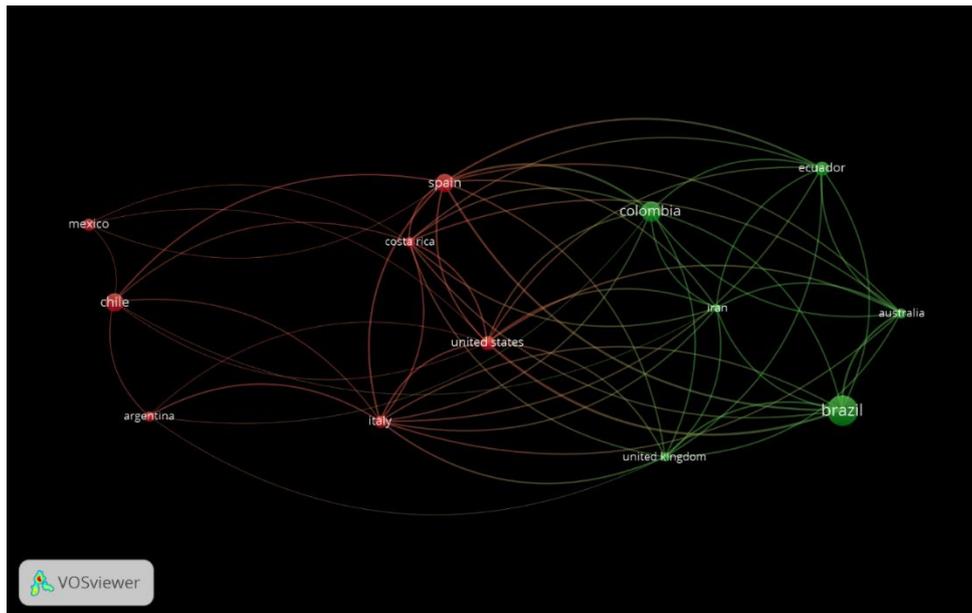

Figure 3. Distribution of scientific production by country of origin.

Source: Own elaboration (2021); based on data provided by Scopus.

Brazil is the Latin American country with the highest number of registered publications referring to the topic of study proposed in this paper, with a total of 64 documents that were published and registered in Scopus during the period 2015-2020. Among these is the review entitled "*Systematic review of preventive practices for psychosocial risks in Ibero-American health care centers*" (Abregú-Tueros, 2020). which proposes a review of which have been the most common practices of intervention in a preventive way, of psychosocial complications that occur within the work environment. In this way, it makes a historical journey through a series of documents that demonstrate how different practices can prevent psychopathologies associated with work performance.

At this point, it should be noted that the production of scientific publications, when classified by country of origin, presents a special characteristic and that is the collaboration between authors with different affiliations to both public and private institutions, and these institutions can be from the same country or from different nationalities, so that the production of an article co-authored by different authors from different countries of origin allows each of the countries to add up as a unit in the general publications. This is best explained in Figure 2 where the flow of collaborative works from different countries is observed.

Figure 4. Co-authorship between countries in Latin America.

Source: Own elaboration (2021); based on data provided by Scopus.

As mentioned above, Brazil is the Latin American country with the highest number of publications registered in Scopus referring to the topic of study proposed in this article during the period 2015-2020, and likewise registers in Figure 4 as one of those with the highest participation within research papers published in co-authorship with researchers from the United Kingdom, Australia, Ecuador, Colombia. The latter ranks second in number of publications, registering a total of 29 documents, including the article entitled "*Intervention strategies for work-related psychosocial risk factors: a vision of occupational therapy*" (Murilloa, Suáreza, & Moreno-Chaparroa, 2020). whose objective is to identify and propose intervention strategies focused on psychosocial factors at occupational level from occupational therapy. This undoubtedly allows organizations to control the adverse effects that may occur in workers by the exercise of their functions within the company. The design of intervention strategies ranges from physical therapies, such as active breaks for the prevention of occupational diseases that are associated with some physical function of the body, to psychological therapies that are aimed at determining the emotional and psychological state of employees. In this way, you can keep the organization informed of the health status of workers to prevent possible cases of deterioration in the same either through physical or mental pathologies, but in any case, is a topic that has taken a lot of strength within the administrative management in organizations that pursue quality in their processes.

4.4 Distribution of scientific production by area of knowledge

Figure 5 shows how the production of scientific publications is distributed according to the area of knowledge through which the different research methodologies are executed.
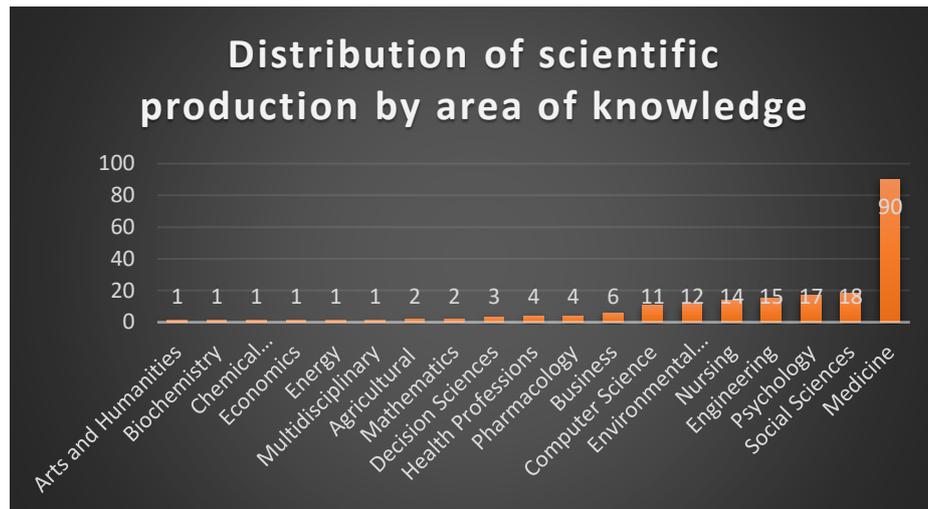
**Figure 5.** Distribution of scientific production by country of origin**.**

Source: Own elaboration (2021); based on data provided by Scopus.

Medicine is the area of knowledge that has made the greatest contribution to research concerning the Psychosocial Risk Factors at Work and the Measurement Tools for their Evaluation, in a total of 90 publications during the period 2015-2020 within which is the article entitled "*Relationship between the level of occupational stress and work psychosocial risk factors in workers of a foundation for children with disabilities located in the department of Atlántico/Colombia*" (July, et al., 2020) which addresses a central issue in the study of what is raised in this document, and is the relationship that exists or may exist between the stress generated by the workload, and the psychosocial risk faced by workers of institutions specializing in children with disabilities. The study determined that both variables turn out to be a "vicious circle" because the greater the stress, the greater the risk factors and vice versa. Thus, one of the main recommendations made by the authors of the document is the immediate intervention of the Department of Occupational Health, to design strategies aimed at improving the work environment, in order to reduce the risks faced by workers in these institutions.

Social Sciences occupies the second place with 18 publications, followed by the area of Psychology with 17. From the latter, the article entitled "*Prevalence and predictors of burnout syndrome among public elementary school teachers*" stands out (Carlotto & Câmara, 2019). whose purpose is to contextualize the reader about the burnout syndrome which is a psychosocial phenomenon, expression of several crises and disorientation of society, which has been subjecting many labor sectors to too much stress over the years. The main objective of the study was to identify the prevalence and predictors of Burnout Syndrome (BS) in a random sample of 679 Brazilian teachers from 37 public elementary schools. Among its main findings, the systems or tools for measuring or evaluating this and other syndromes detected among the personnel studied are determined, as a vital instrument in the design of intervention strategies to prevent the manifestation of different psychopathologies such as the one referred to above.

4.5 Type of Publication.

Figure 6 shows the trend among authors in the use of different types of publications to disseminate their scientific findings.
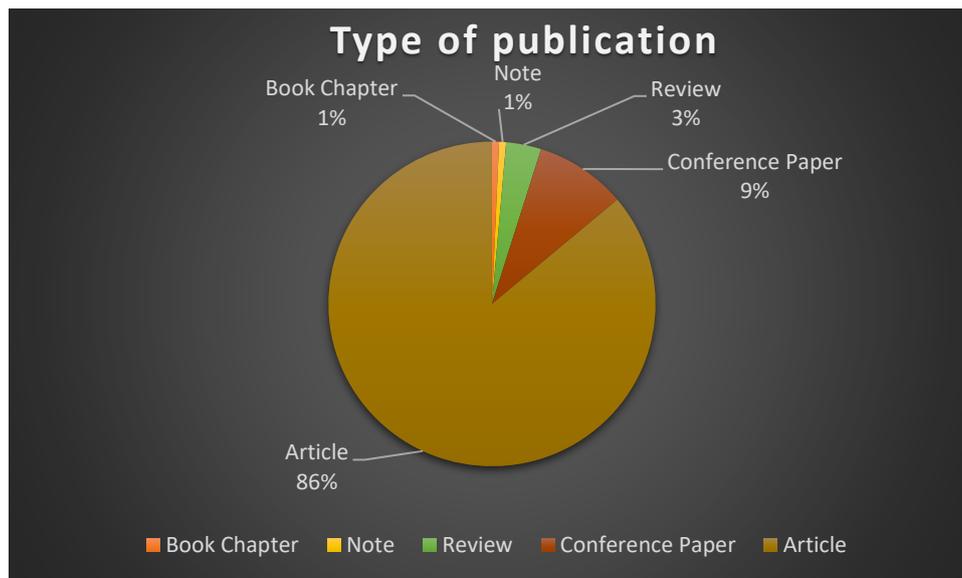
Figure 6. Type of publication.

Source: Own elaboration (2021); based on data provided by Scopus.

The Type of Publication most used by the authors in the topic proposed by the present research during the period 2015-2020 was the Journal Article, which represents 86% of the total production. Within this type of documents is the one entitled "*Psychosocial risk factors at work associated with the level of physical activity of motorcycle taxis*" (Teixeira, et al., 2020). whose objective is to analyze the association of psychosocial risk factors at work, sociodemographic and occupational characteristics with the level of physical activity of motorcycle taxis. This allows to know the implications in mental and physical health of the people who provide this service.

In second place, the conference articles are located, with 9%, among which is the one entitled "*Psychosocial risk factors at work: the model of legal compliance in Mexico*" (Martinez-Gutierrez & Cruz-Ibarra, 2020). This article makes a tour of the legal framework that involves all labor activity in terms of compliance with working conditions to prevent complications of mental or physical type. In this way, it is possible to establish how occupational health measures are located in the legal context as mandatory compliance of companies. Through these regulations, it is possible to establish the elements to identify, analyze and prevent psychosocial risk factors, as well as to promote a favorable organizational climate in the workplace.

5. Conclusions

The bibliometric analysis proposed in this research, allows identifying Brazil as the Latin American country with the highest scientific production related to the study of Psychosocial Risk Factors at Work, and the evaluation Methods and Tools for their measurement. The total number of papers submitted by that country was 64 during the period 2015-2020. The study of the aforementioned variable is relevant for organizations not only in Latin America but worldwide, because currently the validation of quality is pursued through actors that regulate this indicator, and the treatment of total quality as the perception not only of customers or users of products or services, but of the so-called internal customers of the organization, therefore maintaining favorable conditions for the exercise of

the functions is of great importance in the prevention of diseases associated with factors related to work performance.

The use of questionnaires and formats as an instrument for data collection will always be a useful tool for the processing of information and its analysis in order to know the conditions in which workers are carrying out their functions. The self-diagnosis in many cases works for companies as a thermometer to measure its physical and mental state, which helps the organization to establish plans and strategies to reduce exposure to risk factors that deteriorate the physical and mental health of employees. This is what the Occupational Health department is responsible for in companies that have identified the need for the institutionalization of policies for the care of the integrity of workers. For all the above, it is important to know the current state of the literature published on the subject, to identify the present of the different institutional regulations aimed at reducing risks associated with job performance, as with the stress generated by the workload which triggers a series of complications not only psychological but physical. This article concludes by reaffirming the position of different researchers related to the importance of managing policies that reduce psychosocial risk in work performance and the use of methods and tools capable of diagnosing the current state of working conditions.

REFERENCES

1. Abregú-Tueros, L. (2020). A systematic review of the preventive practices for psychosocial risks in Ibero-American health centers. Medwave.
2. Benavides, F. G., Gimeno, D., Benach, J., Martínez, J. M., Jarque, S., Berra, A., & Devesa, J. (2002). Descripción de los factores de riesgo psicosocial en cuatro empresas. Gaceta sanitaria, 222-229.
3. Carlotto, M., & Câmara, S. (2019). Prevalence and predictors of burnout syndrome among public elementary school teachers. Analise Psicologica, 135-146.
4. del Carmen, R., María de Jesús, O., María Elena, A., Guadalupe, L. B., Melva, G. H., & Ana, C. M. (2018). Psychosocial factors and coping strategies associated to stress in universitary professors. Revista de la Asociacion Espanola de Especialistas en Medicina del Trabajo, 197-203.
5. Gómez-García, A., Portalanza-Chavarría, C., Arias-Ulloa, C., & Espinoza-Samaniego, C. (2020). Salaried workers' self-perceived health and psychosocial risk in guayaquil, ecuador. International Journal of Environmental Research and Public Health.
6. Julio, R., Buchard, K., Vizcaino, H., Fonseca-Angulo, R., León-García, M., & Rodriguez-Barraza, P. (2020). Relationship between work-related stress and psychosocial risk factors inthe workplace of disability center employees working for a disability center located in Atlántico, Colombia. Revista de la Asociacion Espanola de Especialistas en Medicina del Trabajo, 42-56.
7. Martinez-Gutierrez, R., & Cruz-Ibarra, C. (2020). Psychosocial Risk Factors at Work: The Legal Compliance Model in Mexico. AHFE Virtual Conferences on Safety Management and Human Error, Reliability, Resilience, and Performance, (págs. 216-221).
8. Murillo, K. D., Suárez, O. B., & Moreno-Chaparro, J. (2020). Estrategias de intervención de los factores de riesgo psicosocial de origen laboral: una visión desde terapia ocupacional. Cadernos Brasileiros de Terapia Ocupacional, 436-451.
9. Murilloa, K., Suáreza, O., & Moreno-Chaparroa, J. (2020). Work-related psychosocial risk factor intervention strategies: An occupational therapy view. Brazilian Journal of Occupational Therapy , 436-451.
10. Oenning, N., De Goulart, B., Ziegelmann, P., Chastang, J.-F., & Niedhammer, I. (2019). Associations between occupational factors and self-rated health in the national Brazilian working population. BMC Public Health.
11. Solanes, A., Tirado, S., & Martín del Río, B. (2004). Factores de riesgo psicosocial para la salud ocupacional: adaptación de un instrumento de evaluación. Revista de Psicología de la Salud, 85-110.
12. Teixeira, J., Mussi, F., Mota, T., Lua, I., Macedo, T., Souza, A., & de Araújo, T. (2020). Psychosocial risk factors at work associated with the level of physical activity among motorcycle taxi drivers. Archives of Environmental and Occupational Health, 307-316.

13. Vassallo, L. M. (2012). Factores de riesgo psicosocial en el trabajo.

14. Martín Daza, F. y Pérez Bilbao, J. (1997). NTP 443. Factores Psicosociales: Metodología de Evaluación. INSHT. Disponible en: http://www.mtas.es/insht/ntp/ntp_e13.htm

15. Abregú-Tueros, L. F. (2020). A systematic review of the preventive practices for psychosocial risks in ibero-american health centers. [Revisión sistemática de las prácticas preventivas para riesgos psicosociales en centros sanitarios iberoamericanos] Medwave, 20(7), e8000. doi:10.5867/medwave.2020.07.8000

16. Asghari, E., Dianat, I., Abdollahzadeh, F., Mohammadi, F., Asghari, P., Jafarabadi, M. A., & Castellucci, H. I. (2019). Musculoskeletal pain in operating room nurses: Associations with quality of work life, working posture, socio-demographic and job characteristics. International Journal of Industrial Ergonomics, 72, 330-337. doi:10.1016/j.ergon.2019.06.009

17. Becerra-Ostos, L. F., Quintanilla, D., Vásquez, X. A., & Restrepo-Guerrero, H. F. (2018). Psychosocial determinants associated to work stress pathologies in administrative staff in an eps of bogotá. [Factores determinantes psicosociales asociados a patologías de stress laboral en funcionarios administrativos en una eps de Bogotá] Revista De Salud Publica, 20(5), 574-578. doi:10.15446/rsap.V20n5.69094

18. Beltrán, J. M., & Carvajal, A. B. (2019). Professional exhaustion in nursing staff and psychosocial risk factors. [Agotamiento profesional en personal de enfermería y factores de riesgo psicosocial] Archivos Venezolanos De Farmacologia y Terapeutica, 38(4), 501-508. Retrieved from www.scopus.com

19. Ceballos-Vásquez, P., Cancino-Grillo, M., González-Palacios, Y., & Klijn, T. P. (2020). Profile of psychosocial risks in health workers: An elementary instrument for its intervention. [Perfil de riesgos psicosociales en trabajadores sanitarios: Una herramienta elemental para su intervención] Revista De La Asociacion Espanola De Especialistas En Medicina Del Trabajo, 29(4), 323-329. Retrieved from www.scopus.com

20. Gómez-García, A. R., Portalanza-Chavarría, C. A., Arias-Ulloa, C. A., & Espinoza-Samaniego, C. E. (2020). Salaried workers' self-perceived health and psychosocial risk in guayaquil, ecuador. International Journal of Environmental Research and Public Health, 17(23), 1-10. doi:10.3390/ijerph17239099

21. Julio, R. A., Buchard, K. R., Vizcaino, H. C., Fonseca-Angulo, R., León-García, M., & Rodriguez-Barraza, P. (2020). Relationship between work-related stress and psychosocial risk factors inthe workplace of disability center employees working for a disability center located in atlántico, colombia. [Relación entre el nivel de estrés laboral y los factores de riesgos psicosociales intralaborales en trabajadores de una fundación de niños con discapacidad ubicado en el departamento del Atlántico/Colombia] Revista De La Asociacion Espanola De Especialistas En Medicina Del Trabajo, 29(1), 42-56. Retrieved from www.scopus.com

22. Lara Satán, A. A., Satán, N. L., Velastegui Hernández, R. S., & Pullas Tapia, P. S. (2020). Organization and management in the prevention of occupational psychosocial risks in urban public transport. [Organización y gestión en la prevención de riesgos psicosociales laborales en el transporte público urbano] Universidad y Sociedad, 12(4), 355-362. Retrieved from www.scopus.com

23. Lara, A. A. (2020). Prediction of psychosocial occupational risk in urban transport applying machine learning techniques. [Predicción del riesgo psicosocial laboral en el transporte urbano aplicando técnicas de aprendizaje automático] RISTI - Revista Iberica De Sistemas e Tecnologias De Informacao, 2020(E37), 153-165. Retrieved from www.scopus.com

24. Luna-Chávez, E. A., Anaya-Velasco, A., & Ramírez-Lira, E. (2019). Diagnosis of the perceptions of psychosocial risk factors in the work of the personnel of a manufacturing industry. [Diagnóstico de las percepciones de los factores de riesgo psicosociales en el trabajo del personal de una industria manufacturera] Estudos De Psicologia (Campinas), 36 doi:10.1590/1982-0275201936e180148

25. Murilloa, K. D. M., Suáreza, O. B. G., & Moreno-Chaparroa, J. (2020). Work-related psychosocial risk factor intervention strategies: An occupational therapy view. [Estrégias de intervençaõ do fator de risco psicossocial relacionadas ao trabalho: Uma visaõ da terapia ocupacional] Brazilian Journal of Occupational Therapy, 28(2), 436-451. doi:10.4322/2526-8910.CTOAO1934

26. Ortiz, V. G., Perilla-Toro, L. E., & Hermosa R., A. M. (2019). Health risk for university professors associated to occupational psychosocial risk factors. [Riesgos para la salud de profesores universitarios derivados de factores psicosociales laborales] Universitas Psychologica, 18(3), 1-15. doi:10.11144/Javeriana.upsy18-3.rspu

27. Restrepo, D. (2020). Mental health of interventionist cardiologists: Occupational stress and consequences of exposure to ionising radiation. [Salud mental de los cardiólogos intervencionistas: Estrés ocupacional y consecuencias mentales

de la exposición a radiación ionizante] Revista Colombiana De Cardiologia, 27, 13-20. doi:10.1016/j.rccar.2019.12.001

28. Rivera Porras, D. A., Carrillo Sierra, S. M., Forgiony Santos, J. O., Bonilla Cruz, N. J., Hernández Peña, Y., & Silva Monsalve, G. I. (2018). Strengthening of the occupational health and safety management system in the psychosocial scope from the perspective of the logical framework. [Fortalecimiento del Sistema de Gestión de Seguridad y Salud en el Trabajo en el ámbito Psicosocial desde la Perspectiva del Marco Lógico] Espacios, 39(28) Retrieved from www.scopus.com

29. Rocha, F. L. R., de Jesus, L. C., Marziale, M. H. P., Henriques, S. H., Marôco, J., & Campos, J. A. D. B. (2020). Burnout syndrome in university professors and academic staff members: Psychometric properties of the copenhagen burnout Inventory–Brazilian version. Psicologia: Reflexao e Critica, 33(1) doi:10.1186/s41155-020-00151-y

30. Roncoleta, L. M., Pereira Jorge, I. M., Maríngolo, L. P., Justino, M. F., & Martins Silva-E-Dutra, F. C. (2019). Psychosocial and environmental factors: Influence on work ability among social assistance workers. Revista Brasileira De Medicina do Trabalho, 17(3), 335-345. doi:10.5327/Z1679443520190408

31. Seijas-Solano, D. E. (2019). Psychosocial risks, occupational stress and burnout syndrome in university workers from a bioanalysis school. [Riesgos psicosociales, estrés laboral y síndrome burnout en trabajadores universitarios de una escuela de bioanálisis] Revista De Salud Publica, 21(1), 102-108. doi:10.15446/rsap.v21n1.71907

32. Solis-Soto, M. T., Schön, A., Parra, M., & Radon, K. (2019). Associations between effort-reward imbalance and health indicators among school teachers in chuquisaca, bolivia: A cross-sectional study. BMJ Open, 9(3) doi:10.1136/bmjopen-2018-025121