SMAD, Rev. Eletrônica Saúde Mental Álcool Drog.

2020 July-Aug.;16(4):133-143

DOI: 10.11606/issn.1806-6976.smad.2020.172196

www.revistas.usp.br/smad/



Review Article

Worker's health surveillance: work-related suicide*

Carlos Alexandre Curylofo Corsi^{1,2}

(i) https://orcid.org/0000-0002-2983-1436

Alan Vinicius Assunção Luiz^{3,4}

(D) https://orcid.org/0000-0003-3644-3981

Álefe Saloum Cintra³

(ib) https://orcid.org/0000-0002-7555-5524

Natássia Condilo Pitta^{3,4}

https://orcid.org/0000-0003-0098-3310

Ana Cláudia da Silva Paschoal⁵

D https://orcid.org/0000-0003-3664-4863

Talita Silva Queiroz⁵

(i) https://orcid.org/0000-0002-3416-8843

Milena Flória-Santos^{3,4}

(i) https://orcid.org/0000-0002-0656-1736

- * This article refers to the call "Self-inflicted violence: nonsuicidal self-injury and suicidal behavior".
- ¹ Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto, Departamento de Cirurgia e Anatomia, Ribeirão Preto, SP, Brazil.
- ² Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto, Hospital das Clínicas, Banco de Tecidos Humanos, Ribeirão Preto, SP, Brazil.
- ³ Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto, PAHO/WHO Collaborating Centre for Nursing Research Development, Ribeirão Preto, SP, Brazil.
- ⁴ Scholarship holder at the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Brazil.
- ⁵ Fundação Oswaldo Cruz, Escola Nacional de Saúde Pública Sergio Arouca, Rio de Janeiro, RJ, Brazil.

Objective: to investigate the possible links between the themes of suicide ideation and suicide associated with the internal and external aspects of the work. Method: by adopting a qualitative approach and descriptive perspective, an integrative review of the literature of the 2009-2019 period was carried out by searching the PubMed, SCOPUS, Web of Science, LILACS, BDENF and VHL databases. Results: The guiding question "What are the relations between the worker, victim of suicide, and the work environment in which he is inserted?" and descriptors, with 481 records, of which ten studies, were selected. Separated by two axes of analysis (internal and external aspects), the studies described ten predominant relationships between suicide and work, being: depression (19.3%); moral harassment/bullying (16.1%); absence of leisure (12.9%); stress (9.6%); professional overload (9.6%); accidents at work (9.6%); Burnout syndrome (6.4%); social isolation (6.4%); conflicts between family and work (6.4%) and lack of autonomy at work (3.2%). Conclusion: the results show the relationship between work and suicide. As nursing is a potential promoter of humanized care, the need for vigilance and health promotion for workers in these environments is highlighted.

Descriptors: Suicide; Worker's Health; Public Health Surveillance; Occupational Risks.

How to cite this article

Corsi CAC, Assunção-Luiz AV, Cintra AS, Pitta NC, Paschoal ACS, Queiroz TS et al. Worker's health surveillance: work-related suicide. SMAD, Rev Eletrônica Saúde Mental Álcool Drog. 2020;16(4):133-143. doi: https://dx.doi.org/10.11606/issn.1806-6976.smad.2020.172196

Vigilância em saúde do trabalhador: o suicídio relacionado ao trabalho

Objetivo: investigar as possíveis relações que permeiam as temáticas da ideação suicida e do suicídio associadas aos aspectos internos e externos do trabalho. Método: ao adotar uma abordagem qualitativa e perspectiva descritiva, foi realizada uma revisão integrativa da literatura do período de 2009-2019 operacionalizada por buscas nas bases de dados PubMed, SCOPUS, Web of Science, LILACS, BDENF e BVS. Resultados: partiu-se da questão norteadora "Quais são as relações existentes entre o trabalhador, vítima de suicídio, e o ambiente de trabalho em que ele está inserido?" e de descritores, encontrando-se 481 registros, dos quais dez estudos foram selecionados. Separados por dois eixos de análise (aspectos internos e externos), os estudos descreveram dez relações predominantes entre o suicídio e o trabalho, sendo elas: depressão (19,3%); assédio moral/bullying (16,1%); ausência de lazer (12,9%); estresse (9,6%); sobrecarga profissional (9,6%); acidentes no trabalho (9,6%); Síndrome de Burnout (6,4%); isolamento social (6,4%); conflitos entre a família e o trabalho (6,4%) e falta de autonomia no trabalho (3,2%). Conclusão: os resultados demonstram a relação existente entre o trabalho e o suicídio. Como a Enfermagem é uma potencial promotora no cuidado humanizado, destaca-se a necessidade de vigilância e promoção da saúde para os trabalhadores nesses ambientes.

Descritores: Suicídio; Saúde do Trabalhador; Vigilância em Saúde Pública; Riscos Ocupacionais.

Vigilancia de la salud del trabajador: suicidio relacionado con el trabajo

Objetivo: investigar las posibles relaciones que impregnan los temas de ideación suicida y suicidio, asociados con aspectos internos y externos del trabajo. Método: adoptando un enfoque cualitativo y una perspectiva descriptiva, se realizó una revisión integradora de la literatura para el período 2009-2019 mediante la búsqueda en las bases de datos PubMed, SCOPUS, Web of Science, LILACS, BDENF y BVS. Resultados: Basado en la pregunta guía: "¿Cuáles son las relaciones que existen entre el trabajador, una víctima de suicidio y el ambiente de trabajo en el que está insertado?" y descriptores, se encontraron 481 registros, de los cuales se seleccionaron 10 estudios. Separados por dos ejes de análisis (aspectos internos y externos), los estudios describieron 10 relaciones predominantes entre el suicidio y el trabajo, a saber: depresión (19.3%), bullying / bullying (16.1%), ausencia de ocio (12.9%), estrés (9.6%), sobrecarga profesional (9.6%), accidentes laborales (9.6%), síndrome de Burnout (6.4%), aislamiento social (6, 4%), conflictos entre familia y trabajo (6,4%) y falta de autonomía en el trabajo (3,2%). Conclusión: los resultados demuestran una relación entre el trabajo y el suicidio. Como la enfermería es un potencial promotor de la atención humanizada, se destaca la necesidad de vigilancia y promoción de la salud de los trabajadores en estos entornos.

Descriptores: Suicidio; Salud Laboral; Vigilancia en Salud Pública; Riesgos Laborales.

Introduction

Suicide is classified as self-inflicted violence related to suicidal behavior and various forms of self-mutilation, ranging from self-destructive thoughts, making plans to hurt oneself (suicidal thinking) to performing the act of self-extermination to end one's life⁽¹⁾.

According to the World Health Organization (WHO), suicide is currently a global public health problem⁽¹⁾. Attempted suicide is the most important risk factor for suicide in the general population and the suicide mortality rate in the world is 57%, surpassing the mortality caused by war or homicide⁽¹⁻²⁾. In view of the above situation, it is recommended that suicide be discussed and prioritized in health agendas in order to trigger the formulation of public policies that address the main risk groups⁽²⁻³⁾.

Internal and external stressors of a given environment can be considered triggers for mental health impoverishment. Thus, the working environment can also be considered a factor promoting mental health, as it provides social interactions of the individual⁽⁴⁻⁵⁾.

The individual's internal and external interactions in pro-movement work environments provide self-esteem, resilience and emotional abilities, but if compared to stressful environments, they can lead to suffering, illness and suicidal thoughts. As a result, the WHO determined in 2019 the prioritization of notification for work-related diseases^(1,5).

Recurrent negative situations in the worker's scenario are inclusion factors for mental stressors, which can influence suicidal thinking and suicide, which include, for example: harassment or bullying; depression; Burnout syndrome; work environment conditions; excessive hours, among others⁽⁶⁾. Thus, from a broader perspective related to worker health, the working environment and consecutively based on the many ways in which suicide may be associated, it is possible that there is an intrinsic relationship between these areas of study⁽³⁾.

Scientific production regarding work-related disorders is still incipient. Issues that address these issues are little discussed in the public health spheres, generating the lack of incentives to promote the health of this public, often neglected in the actions of the Specialized Workers' Health Reference Centers (CEREST) and the National Workers' Health Care Network (RENAST), which integrate the services of the Single Health System (UHS)⁽⁷⁻⁸⁾.

The National Worker and Occupational Health Policy (NWOHP), together with the National Occupational Safety and Health Policy (NOSHP), has as its objectives:

the promotion of health; the improvement of the quality of life; the prevention of accidents and damage to health arising from and/or related to work. Its scopes are for the development of integral attention to the worker's health with the Single Health System (UHS), with emphasis on the surveillance and reduction of the workers' morbidity and mortality resulting from the development models and productive processes⁽⁷⁻⁹⁾.

Thus, in the context of worker health surveillance, this prior, more judicious look would facilitate health promotion, seeking to identify more appropriate and timely strategies, thus avoiding extreme cases, such as self-extermination⁽¹⁰⁾.

Therefore, this study proposes the investigation of possible relationships that pertain to the themes of suicide ideation and suicide, associated with the internal aspects and extinguish us from work, in the last ten years, by means of an Integrative Review of Scientific Literature (IR), aiming, thus, to raise actions of health surveillance at work and recognition of these workers, preventing more serious damages.

Method

IR studies allow the researcher to include both experimental and non-experimental studies, synthesizing multiple published papers for abrupt conclusions on a particular area of study. This allows the combination of theoretical and empirical data from the literature, helping in the understanding of the analyzed phenomenon and identifying possible research gaps for future research⁽¹¹⁻¹³⁾.

In this study, the six steps proposed for the making of IR were followed⁽¹⁴⁾, These are: formulation of the guiding question; sampling or search in the literature of the studies; extraction of the results; critical analysis; analysis and synthesis of the results of the review; presentation of the IR.

Considered as the gold standard of scientific research, the Evidence-Based Practice (EBP) is today used as a guide to classify the quality of scientific studies, carried out mainly in the areas of health, meeting the practical needs of detection for the improvement of the humanized care of multi-professional teams and especially of the Nursing team⁽¹¹⁻¹²⁾.

Therefore, the definition of the issue guiding the research was carried out by the PICo strategy⁽¹⁵⁾, which provided the researchers with conditions for the searches. This question guided the eligibility criteria expressed where: P = participant, I = intervention and $Co = context/results^{(15)}$. For this study, respectively: Population = workers: individuals occupying certain work environments, unspecified; Intervention =

suicide: individuals who have committed suicide with a possible relation to work; Context/results = worker health surveillance: characteristics of the process and/ or environment and/or work relations.

Thus, on the basis of such a methodological strategy, the guiding question for this revision was constructed as follows: "What are the relationships between the worker, victim of suicide, and the working environment in which he is inserted?.

In view of the emerging discussion on the subject, a sample cut-off of the last ten years (2009-2019) was chosen, as discussions on work-related suicide are extremely recent. In addition to the original articles, dissertations and theses published in the period were included, in Portuguese, English and Spanish, as well as quantitative and qualitative approach studies and experience reports.

Literature review articles, protocols, letters, editorials and articles that brought the topic of suicide into the physical space of work where the individual committed suicide were excluded.

The choice of descriptors was made through searches, consulting the Health Science Descriptors (DeCS) controlled in the Virtual Health Library (VHL) and the Medical Subject Headings (MeSH) via the National Center for Biotechnology Information (NCBI). Controlled descriptors are those used for indexing and searching articles in databases on a given subject and non-controlled descriptors represent textual words and their synonyms⁽¹²⁻¹³⁾ (Figure 1).

Controlled descriptors						
	DeCS	MeSH				
Р	Workers Worker's health	Occupational Groups Work Workforce				
ı	Suicide Attempted suicide Assisted suicide Suicidal ideation Job satisfaction Occupational Mortality Work-life balance	Suicide, Attempted Suicide, Assisted Suicidal Ideation Job Satisfaction Work-Life Balance				
Со	Public health surveillance Working environment Place of work Occupational risks Employment Working conditions	Employment Workplace				

Figure 1 - Controlled and uncontrolled descriptors used in the survey. Ribeirão Preto, SP, Brazil, 2019

The terms presented in Figure 1 are determining connectors for carrying out searches, allowing combinations to be made. Variations in the use of Boolean operators (and, or, and not) favor proximity in the search strategy phrases formed. Thus, different

combinations of descriptors, keywords, and Boolean were used $^{(13-14)}$.

Searches were conducted on the PubMed portal and the following databases: SCOPUS, Web of Science, LILACS and BDENF. The criterion of these choices was through the notoriety of indexation of each database, containing an arsenal of titles on subjects of interest to the theme, covering the major areas of concentration related to health, focused mainly on the themes: Nursing; Psychology; worker health; surveillance in public health and Medicine, thus meeting the purpose of representing a bibliographic index composed of references from national and international technical-scientific literature⁽¹²⁾.

For each database chosen for the review, the best search strategies were identified, taking into account the specificity of their interfaces^(12,15). From the presentation and sequence in the rigor of the searches, until the dissemination of these results, it was opted to use the PRISMA flowchart⁽¹⁶⁻¹⁷⁾.

With the work of two reviewers, who operated the searches independently from the identification of the articles during the initial selection stage of the process to the final sample at the final stage of inclusion, it was possible to obtain the studies potentially eligible to compose IR.

All searches were idealized and organized beforehand, being carried out on a single day in November 2019. Convergences and divergences between the two researchers were submitted to a third researcher, who defined, as pertinent to the focus of IR, the content identified in the articles.

Results and discussion

After the portal and databases were operationalized and duplicate articles were excluded, 481 works were identified in searches, and the selection process began. Of these, one study was excluded by time limit and 480 were elected to read the abstract. In this selection stage, the selected abstracts were read, 455 works were excluded and 25 studies were selected to be read in full. At the eligibility stage, the selected papers were read in their entirety, excluding 15 studies. In the final stage of inclusion, ten studies were framed in this IR, according to the inclusion and exclusion criteria presented. The process of identification, selection, eligibility and inclusion are described through the PRISMA flowchart⁽¹⁷⁾ (Figure 2). After the selection, for better visualization and discussion of the results, a table with the basic characteristics of the studies found was prepared (Figure 3).

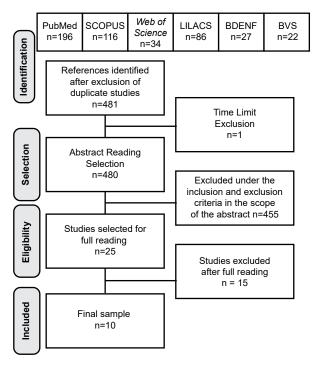


Figure 2 - Flowchart with the results of searches in the databases and the PubMed portal. Ribeirão Preto, SP, Brazil, 2009-2019

From the ten studies elected on the basis of the criteria defined for this IR, it was found that there was a predominance of qualitative studies among the localized articles (90%), with the occurrence of only one quantitative article (10%). The studies come from seven different countries, of which Australia stands out with most of the articles published (30%) and consecutively: Japan (20%); China (10%); United States (10%); Germany (10%); United Kingdom (10%) and Brazil (10%). Regarding the area of concentration of the first author, they contributed to the studies: Medicine (40%) and Psychology (30%), followed by Veterinary Medicine (20%) and Administration (10%). The authors used predominantly databases (60%), questionnaires (30%) and interviews (10%), consecutively, for the elaboration of the studies, being applied in mixed groups of people, men and women, with larger sample for the male public. Regarding the number of publications on the subject located chronologically in RI, the first contribution was made in 2009 and the last one in 2017, this being the year with the greatest number of publications (30%).

Considering the subjects addressed in the results of the studies, the Content Analysis technique was employed to structure thematic categories from the grouping of predominant themes⁽²⁸⁾. Through detailed analysis of the different studies, the articles had their contents grouped into two main thematic axes of analysis, associating the predominant themes that may have contributed to the suicide of workers: internal and external aspects (Table 1).

The internal aspects category covered individual emotional and behavioural aspects related to the worker,

such as: depression $(19.3\%)^{(18,22-26)}$; bullying/moral harassment $(16.1\%)^{(19-23)}$; extreme stress $(9.6\%)^{(18,23-24)}$; Burnout Syndrome $(6.4\%)^{(22,26)}$ and social isolation $(6.4\%)^{(18-19)}$, consecutively. While, in the external aspects category, relevant factors are presented that do not depend on the individual, being exposed to organizational and social factors, in a subordinate way, such as: the absence of leisure $(12.9\%)^{(20-21,26-27)}$; professional overload (hours/volume of work) $(9.6\%)^{(20-21,26)}$; accidents at work $(9.6\%)^{(22,26-27)}$; conflicts between family and work $(6.4\%)^{(26-27)}$ and the lack of autonomy at work $(3.2\%)^{(26)}$.

The association of work with mental disorders is the subject of many questions, which began with the industrial revolution⁽⁴⁾. With the beginning and the prevalence of globalized capitalism, the struggle for human rights of workers exposed to risk factors has always been the scene of major demonstrations⁽⁸⁾.

In mid-1840, in England, German industrial entrepreneur and revolutionary theorist Friedrich Engels wrote the first literary work on the health of working people and working conditions, which already brought the subject of suicide. The work entitled "The situation of the working class in England" is a milestone in the history of capitalism and modern industrial society. Engels' text presented an observational analysis of the poor working class conditions in Europe, the inevitable consequences of social oppression to which workers were exposed, as well as the emerging illnesses possibly arising from processes and workplaces⁽²⁹⁾.

As can be seen in the book, the overwhelming oppression of the productivist industry began by making workers its own victims, so much so that the author reported the great frequency of suicides in England already at that time⁽²⁹⁾. New models of "intelligent management" and the ever-increasing reduction in the workforce lead to a feeling of powerlessness and anxiety for the worker, thus increasing the level of subjection to the oppressive practices present in the working environment^(8,30).

In line with the concepts described by Engels, it is possible to approach the resultant of suicide as a social problem resulting from the oppression and inequality of classes coming from a social organization that has capitalism as its design, which demands extreme productivity and high demands, granted to each class, with suicide being a symptom for all of them(31). In fact, it is possible that there are triggers between the relationships that permeate the work environment, as it was possible to identify in the studies found. Nesse sentido, entende-se que o suicídio pode ser visto como uma mensagem do autor em resposta aos mecanismos que o oprimiram. When it occurs within the workplace, it may indicate a defrauding of interpersonal relations and a weakening of solidarity in this context. Already outside the workplace, it is possible to interpret such an act as a channeling of subjection to suffering in the workplace out of the scene in order to preserve the existing remnants of defensive collectivity(32).

	Year	Country	Journal	Authors	Title	Characterization
1	2009	Japan	Industrial health	TAKADA M, et al. ⁽¹⁸⁾	Associations between lifestyle factors, working environment, depressive symptoms and suicidal ideation: a large-scale study in Japan.	QuantitativE/Questionaire N: 4.118 (Men: 68.8%/Women: 32.2%)
2	2011	Brazil	Brazilian Journal of Occupational Health	FINAZZI-SANTOS MAF, SIQUEIRA MVS. ⁽¹⁹⁾	Work and suicide considerations: a case study.	Qualitative/Case Study N: 1 (Men: 100%)
3	2012	Australia	International journal of injury control and safety promotion	ROUTLEY VH, OZANNE- SMITH JE. ⁽²⁰⁾	Work-related suicide in Victoria, Australia: a broad perspective.	Quantitative/Database N: 643 (Men: 88%/Women: 12%)
4	2012	United Kingdom	Crisis	PLATT B, et al. ⁽²¹⁾	Suicidality in the veterinary profession.	Quantitative/Database N: 21 (Men: 24%/Women: 76%)
5	2013	Australia	SAGE Open	MCPHEDRAN S, LEO D.(22)	Suicide among miners in Queensland, Australia: a comparative analysis of demographics, psychiatric history, and stressful life events.	Quantitative/Database N: 218 (Men: 100%)
6	2014	Germany	Journal of Psychosomatic Research	BAUMERT J, et al. (23)	Adverse conditions at the workplace are associated with increased suicide risk.	Quantitative/Questionnaire N: 28 (Men: -/Women: -)
7	2016	Japan	Journal of affective disorders	WADA K, et al. (24)	Occupational differences in suicide mortality among Japanese men of working age.	Quantitative/Database N: 21(Men: -/Women: -)
8	2017	Australia	BMC public health	MILNER A, et al. (25)	Male suicide among construction workers in Australia: a qualitative analysis of the major stressors precipitating death.	Quantitative/Database N: 34 (Men: 100%)
9	2017	USA	The Journal of Psychology	HOWARD M, KRANNITZ M. ⁽²⁶⁾	A reanalysis of occupation and suicide: negative perceptions of the workplace linked to suicide attempts.	Quantitative/Database N: 2,855 (Men: 52%/Women: 48%)
10	2017	China	Journal of Psychosomatic Research	XIAO J, et al.(27)	The impact of changes in work stressors and coping resources on the risk of newonset suicide ideation among Chinese petroleum industry workers.	Quantitative/Questionnaire N: 1,334 (Men: -/Women: -)

Figure 3 - Basic characteristics of the studies found according to the year of publication. Ribeirão Preto, SP, Brazil, 2019

Table 1 - Content analysis of the themes presented in the studies. Ribeirão Preto, SP, Brazil, 2019

Axes of analysis	Grouping of predominant themes	Simple frequency	Percentage frequency
	Depression	6	19.3
	Moral harassment/bullying	5	16.1
Internal aspects	Extreme stress	3	9.6
	Burnout Syndrome	2	6.4
	Social isolation/individualism	2	6.4
	Absence of leisure	4	12.9
	Professional overload (hours/volume of work)	3	9.6
External aspects	Work accident	3	9.6
	Conflicts between family and work	2	6.4
	Lack of autonomy at work	1	3.2
		31	100%

However, the causal relationship, even in the face of many other causes, which underlie the link between health/mental illness and work, would not be able to determine all possible human manifestations. Thus, it is impossible to determine a single cause of outcome in these extreme situations of stress and psychological impoverishment^(26-27,33). Therefore, the concept of mental health is not necessarily the apparent absence of psychic disorders⁽³³⁾.

It is necessary to take into account the subjective dimensions of the mechanisms and psychic behaviors of illness that will certainly influence the relationship of man with his working environment^(18,20-21,32-33). However, these illnesses reported in studies, such as bullying and stress, can lead to social isolation, triggering depression and, in extreme cases, suicidal thoughts^(18-19,22-26), which are still poorly investigated and/or rarely recorded ⁽³⁴⁾.

In this sense, the health surveillance of the worker becomes of extreme importance for the intervention, being able, first of all, to give speech space to the internal voice of this subject without being coerced, in fear of retaliation or judgements(33-35), identifying these triggers, which are fully associated with the external aspects to which the individual is exposed in the work environment. In Brazil, the objectives of the bodies responsible for worker health, such as CERESTs and RENAST, are the assistance and surveillance of this public through action, monitoring, prevention, notification and strategic confrontation of collective health problems, such as deaths, accidents and work-related diseases(36). In the articles of this IR, from the deprivation of hours for leisure, with excessive demands of workload, to the loss of health, identity and social relations, mechanisms extremely important for the maintenance of mental health were found(20-22,26-27).

Depression, disease (factor) pointed out in the results^(18,22-26), is already considered the great evil of this century⁽³⁷⁾. According to the WHO, by 2020, depression will be ranked second among the leading causes of disability worldwide. It is estimated that today in Brazil there are 17 million people suffering from the disease, with 121 million people worldwide⁽³⁸⁾.

Another eminent and much commented data in the studies is moral harassment/bullying at work⁽²⁰⁻²⁴⁾, which is characterized by the exposure of workers to humiliating and embarrassing situations, with hierarchical, negative and inhumane long-term differences in the working environment⁽³⁹⁾. This can lead the worker to intense anxiety and, consecutively, to the onset of diseases such as depression, and even worse causes when the attacks and constraints are continuous, culminating in dismissal⁽⁴⁰⁾.

It is worth noting that moral violence within the work environment has invisible barriers that are

difficult to detect by the health care team and also by the victim himself, being mostly non-material and intangible, covering the fields of subjectivity and clarity of facts, which can favor a fine line between duties and domination, as well as between function and servitude. As a result of these exposures, signs and symptoms of post-traumatic stress and Burnout Syndrome can be diagnosed, as well as physiological disorders (cardiac, endocrine and digestive), alcoholism, drug addiction and even suicide in consumption⁽⁴¹⁾.

Among the internal aspects, the risks of extreme post-traumatic stress and Burnout Syndrome are potentiated when associated with work in a slow and, most of the time, imperceptible manner^(22,26). The disease is accentuated by increased day-to-day pressures, where incessant competition for personal and time goals accelerates the pace of work, making it extremely stressful and exponentially raising stress levels, and also by the threat of changes in working hours and the threat of economic crisis⁽⁴²⁾.

Regional and state CERESTs play an important role as facilitators of actions to identify and recognize workers exposed to risks, who often remain invisible and inaccessible⁽³⁶⁾. In addition to the National Primary Care Policy (NPCP) (responsible for the formation of health teams: doctors, nurses and auxiliaries) and the Family Health Support Units (FHSU) (specialized in promoting the health of the population in primary care)(43), the articulation of work and the exchange of information between these departments would probably help in the detection of these individuals in situations of danger at work, preventing extremes and promoting health through guidelines, strategies and actions that can meet the detected problems that pervade a given group. This previous look is the most careful facilitator of surveillance and health promotion, seeking to identify opportune moments of intervention⁽⁹⁾.

In thinking about this, a long time ago, a classification of work-related illnesses was proposed, called "Schilling Classification". Such an example of an already validated tool can be useful for the determination of precipitating factors, the observation and reporting of exposures to psychological and/or physical stressors present in the physical work environment⁽⁴⁴⁻⁴⁵⁾.

An important bill of review regarding work-related mental disorders: they are not catalogued in the International Statistical Classification of Diseases and Health-related Problems (ICD), cases of suicide ideation, attempted suicide and/or suicide⁽⁵⁾. This being said, it is possible that the lack of classification of these signs and symptoms makes it difficult to identify them effectively and does not allow for prior diagnosis of the occurrence of these events in the population, which could provide resources for causal explanations of these illnesses.

As mentioned above, the association of mental disorders with work is the target of studies that recommend special protection and assistance to workers exposed and/or affected to work risks, with real rights to withdrawals, welfare benefits, preventive measures, among others. However, in the context of worker health surveillance, the occupational links of these illnesses need to be better investigated in order to get rid of permanent uncertainties and conflicts of interest between the institution and the worker^(34,41)

Like the UHS, mental disorders associated with work are of compulsory notification in the Acute Notification Information System (SINAN), in which its dissemination of knowledge is prioritized by WHO since 2019. However, the identification through the registers of these cases in the SINAN is still little registered, not being possible to explore deeply the data⁽⁵⁾.

Thus, it is necessary to analyze, discuss and identify these biases of notification, possibly found in the causal link between the environment and the mental impoverishment that leads the worker to consummate suicide⁽³⁴⁾. In a perspective of characterization of the occurred fact, associated to the previous compulsory notification, it would collaborate to the identification according to each epidemiological reality and determined geographical area, thus giving rise to more effective surveillance and prevention measures against these indicators.

Another notable point is about investing in educational campaigns for mental health promotion and suicide prevention. As well as other issues related to the subject, the lack of uniformity and incentive of constant campaigns, which meet this public in need of clarification and dialogue, would facilitate the discussion of the subject in continuous periods and not only in specific campaigns, such as "Yellow September", held only in September⁽⁴⁶⁾. This investment can minimize the lack of sensitivity and prejudice from some of the related parties regarding the confessed expression of suicidal ideation, marked by negative and condemnatory attitudes to the issuer of suicidal behavior, which painfully interferes with the quality of care given to it⁽⁴⁷⁾. This leads to a lack of notification and, above all, to a lack of treatment, since the individual understands that talking about this subject is a damning and reprehensible attitude(48).

In the field of preventive actions, the need to hire and train specialized health care teams to detect and diagnose psychosocial problems in the work environment emerges. Preventive measures can be of primary origin (immediate resolution of conflict), secondary (detection of origin) and tertiary (implementation of action for eradication), including performance indicators, with the elaboration of action protocols and improvements in the organizational climate of the institution, under

a culture of organizational management cycle (PDCA Cycle: Plan, Do, Check and Act), with the elaboration of action protocols within the company with the presence of workers⁽⁴¹⁾.

Finally, the prejudice associated with the lack of space for discussion is an underlying aspect that can strengthen the suicidal ideation. Therefore, it is believed that by sharing their fears and anxieties, the individual becomes capable of self-managing feelings and adding meaning to the experience of life, re-signifying it⁽⁴⁹⁾.

This integrative literature review presents, as a limitation, the lack of coverage of the research in all available bibliographic databases, although care was taken to cover the main ones that permeated the central theme of the study. Another limitation is the lack of gender data in three articles(23-24,27). The simplified categorization of the aspects in the data analysis may imply a loss of in-depth clarity in the discussion of each selected study, although it reflects the epistemic and methodological complexity of the proposed field. Despite these limitations, the convergence of the thematic scope in the discussions among the selected studies stands out, as well as the diversity of analyzed methods. Analyzing articles in three languages is another merit of this review. It is also worth mentioning the novelty of correlating the major areas of study: worker health surveillance and suicide, fields still little explored in current studies.

Conclusion

By starting from key categories emphasized in the field of worker health surveillance, this review brought out the possible relationships that permeate suicidal ideation and suicide, related to internal and external aspects of work, which can be perceived and improved through the role of the Nursing team, especially at work.

It has been found that public policies and programs must meet the need to deepen this vision, not only by treating the disease, but also by monitoring and improving the environment and working conditions to which these individuals are exposed, guaranteeing them a zeal for integrity and health which, in its broader concept, does not only presuppose the absence of disease.

It is shown that, even with the broad basis of the Brazilian policies on worker health, several factors can lead the worker to suicidal ideation and, when unattended, to suicide. It is the duty of every employing institution (public or private) to ensure health surveillance and prevention in order to promote safe and healthy working environments and conditions that protect the worker.

It is also important to highlight the need to direct ongoing educational campaigns on suicide prevention

and health promotion in the work environment according to each group, operating social responsibility, starting with human-zoned interpersonal relationships and their own internal institutional environments.

The findings of this study show the need to raise and develop or other research on the subject still little discussed in the literature, exploring equally relevant aspects that permeate health surveillance, worker health and suicide.

Aknowledgements

To the Distance Education Coordination of the National Public Health School Sergio Arouca - EAD/ENSP, of the Oswaldo Cruz Foundation - FIOCRUZ, and especially to Dr. Marcia Schaid and Dr. Márcia Tiveron.

References

- 1. Pan American Health Organization (PAHO). World Health Organization (WHO). Fact sheet: Suicide in Brazil [Internet]. Brazil; 2018 [cited Aug 9 2019]. Available from: https://www.paho.org/bra/index.php?option=com_content&view=article&id=5671:fo lha-informativa-suicidio&Itemid=839.
- 2. Ferreira GS, Fajardo AP, Mello, ED. Possibilities of addressing suicide in the Family Health Strategy. Physis. 2019;29(4):e290413. doi: 10.1590/S0103-73312019290413
- 3. Emergency Nurses Association. Clinical practice guideline: suicide risk assessment. [Internet] Schaumburg; 2018 [cited Dec 20 2019]. Available from: https://www.intljourtranur.com/action/showPdf?pii=S0099-1767%2818%2930350-7.
- 4. Costa DM, Lacaz FAC, Jackson Fo JM, Vilela RAG. Worker's Health within the Brazilian Unified Health System: challenges for a public policy. Rev Bras Saúde Ocup. 2013;38(127):11-30. doi: 10.1590/S0303-76572013000100003
- 5. Almeida MMC. Colaborador da Vigilância dos Agravos à Saúde do Trabalhador. Boletim Epidemiológico: Transtornos Mentais Relacionados ao Trabalho no Brasil, 2006–2017. [Internet] Health Surveillance Secretariat, Brazil; 2019 [cited Dec 15 2019]. Available from: https://www.analisepoliticaemsaude.org/oaps/documentos/noticias/ccvisat-bol-transtmentaisfinal-260419.
- 6. Matthews LR, Bohle P, Quinlan M, Rawlings-Way O. Traumatic Death at Work: Consequences for Surviving Families. Int J Health Serv. 2012;42(4):647–66. doi: 10.2190/HS.42.4.e
- 7. Ministério da Casa Civil (BR). Decreto nº 7.602, de 07 de novembro de 2011. Dispõe sobre a Política Nacional de Segurança e Saúde no Trabalho PNSST. Diário Oficial da República Federativa do Brasil, Brasília, DF, 8

- nov 2011. [Acesso 12 dez 2019]. Disponível em: http://www.planalto.gov.br/.
- 8. Pintor E, Garbin AC. Work-related violence registries and worker's health surveillance: breaking invisibility. Rev Bras Saúde Ocup. 2019;44:e20. doi: 10.1590/2317-6369000006918
- 9. Ministério da Casa Civil (BR). Portaria nº 1.823, de 23 de agosto de 2012. Institui a Política Nacional de Saúde do Trabalhador e da Trabalhadora PNSTT. Diário Oficial da República Federativa do Brasil, Brasília, DF, 23 ago. 2012. [Acesso 10 jul 2019]. Disponível em: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2012/prt1823 23 08 2012.html
- 10. Amorim LDA, Silva TL, Faria HPD, Machado JMH, Dias EC. Worker's Surveillance in the Primary Care: learning with Family Health team of João Pessoa, Paraíba, Brazil. Ciênc Saúde Coletiva. 2017;22(10):3403-13. doi: 10.1590/1413-812320172210.17532017
- 11. Paula CC, Padoin SMM, Galvão CM. Revisão integrativa como ferramenta para tomada de decisão na prática de saúde. In: Lacerda MR, Costenaro RGS, editores. Metodologias da pesquisa para a enfermagem e saúde: da teoria à prática. Porto Alegre: Moriá; 2015. p. 51-76.
- 12. Corsi CAC. Estratégias educativas utilizadas na educação básica para conscientização dos alunos sobre a temática doação/transplante de órgãos e tecidos humanos: revisão integrativa da literatura [dissertação]. Ribeirão Preto (SP): Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo; 2018.
- 13. Carrara GLR. A utilização de instrumentos para avaliação da liderança nos serviços de saúde e enfermagem [dissertação]. Ribeirão Preto (SP): Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo; 2016.
- 14. Mendes KD, Silveira RC, Galvão CM. Integrative literature review: a research method to incorporate evidence in health care and nursing. Texto Contexto Enferm. 2008;17(4):758-64. doi: 10.1590/S0104-07072008000400018
- 15. Joanna Briggs Institute. 'Joanna Briggs Institute Reviewers Manual: 2014' Edition. [Internet]. Adelaide: Joanna Briggs Institute; 2014. Available from: http://joannabriggs.org/assets/docs/sumari/ReviewersManual-2014.pdf.
- 16. Whittemore R, Knafl K. The integrative review: updated methodology. J Adv Nurs. 2005;52(5):546-53. doi: 10.1111/j.1365-2648.2005.03621.x
- 17. Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015;349:1-25. doi: 10.1136/bmj.g7647

- 18. Takada M, Suzuki A, Shima S, Inoue K, Kazukawa S, Hojoh, M. Associations between lifestyle factors, working environment, depressive symptoms and suicidal ideation: a large-scale study in Japan. Ind Health. 2009;47(6):649-55. doi: 10.2486/indhealth.47.649
- 19. Finazzi-Santos MA, Siqueira MVS. Considerations on work and suicide: a case study. Rev Bras Saúde Ocup. 2011;36(123):71-83. doi: 10.1590/S0303-76572011000100007
- 20. Routley VH, Ozanne-Smith JE. Work-related suicide in Victoria, Australia: a broad perspective. Int J Inj Contr Saf Promot. 2012;19(2):131-4. doi: 10.1080/17457300.2011.635209
- 21. Platt B, Hawton K, Simkin S, Dean R, Mellanby RJ. Suicidality in the veterinary profession: interview study of veterinarians with a history of suicidal ideation or behavior. Crisis. 2012;33(5):280-9. doi: 10.1027/0227-5910/a000143
- 22. McPhedran S, De Leo D. Suicide among miners in Queensland, Australia: a comparative analysis of demographics, psychiatric history, and stressful life events. Sage Open. 2013;3(4). doi: 10.1177%2F2158244013511262
- 23. Baumert J, Schneider B, Lukaschek K, Emeny RT, Meisinger C, Erazo N, et al. Adverse conditions at the workplace are associated with increased suicide risk. J Psychiatr Res. 2014;57:90-95. doi: 10.1016/j. jpsychires.2014.06.007
- 24. Wada K, Eguchi H, Prieto-Merino D, Smith DR. Occupational differences in suicide mortality among Japanese men of working age. J Affect Disord. 2016;190:316-21. doi: 10.1016/j.jad.2015.10.032
- 25. Milner A, Maheen H, Currier D, LaMontagne AD. Male suicide among construction workers in Australia: a qualitative analysis of the major stressors precipitating death. BMC Public Health. 2017;17(1):584. doi: 10.1186/s12889-017-4500-8
- 26. Howard M, Krannitz M. A reanalysis of occupation and suicide: Negative perceptions of the workplace linked to suicide attempts. J Psychol. 2017;151(8):767-788. doi: 10.1080/00223980.2017.1393378
- 27. Xiao J, Guan S, Ge H, Tao N, Zhang Y, Jiang Y, et al. The impact of changes in work stressors and coping resources on the risk of new-onset suicide ideation among Chinese petroleum industry workers. J Psychiatr Res. 2017;88:1-8. doi: 10.1016/j.jpsychires.2016.12.014
- 28. Cortez PA, Veiga HMS, Gomide APA, Souza MVR. Suicide at work: review of Brazilian literature in Psychology. rPOT. 2019;19(1):523-531. doi: 10.17652/rpot/2019.1.14480
- 29. Engels F. A situação da classe trabalhadora na Inglaterra. 2th ed. São Paulo: Boitempo 2010. p. 150-5. 30. Venco S, Barreto M. The social meaning of suicide at work. REA. [Internet]. 2010; Apr. 26 [cited 2020 Jul 8];

- 9(108):1. Available from: http://www.periodicos.uem. br/ojs/index.php/EspacoAcademico/article/view/10032 31. De Campos LJ, Alquatti R, Garbin SR, Pereira I. Work and suicide: an ultimate resistance gesture. Est Pesqui Psicol. 2016;16(1):86-103. doi: https://doi.org/10.12957/epp.2016.24832
- 32. Dejours C, Bègue F. Suicídio e trabalho: o que fazer?. Brasília: Paralelo. 2010;15: 128.
- 33. Jacques MG. The causal nexus on mental health/illness related to work: a new demand for psychology. Psicol Soc. 2007;19(spe):112-9. doi: 10.1590/S0102-71822007000400015
- 34. Soares A, Oliveira JA. Bullying at work. Rev Bras Saúde Ocup. [Internet]. 2012 Dec [cited 2020 Jul 21]; 37(126): 195-202. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0303-76572012000200002&Ing=en. doi:10.1590/S0303-76572012000200002.
- 35. Pan American Health Organization (PAHO). World Health Organization (WHO). Work-related diseases: manual of procedures for health services. Brazil; 2001 [cited Aug 19 2019]. Available from: https://www.paho.org/bra/index.php?option=com_docman&view=download&alias=207-doencas-relacionadas-ao-trabalho-manual-procedimentos-paraos-servicos-saude-7&category_slug=saude-e-ambiente-707&Itemid=965
- 36. Ministério da Saúde (BR). Portaria GM/MS nº 2.437, de 7 de dezembro de 2005. Dispõe sobre a ampliação e o fortalecimento da Rede Nacional de Atenção Integral à Saúde do Trabalhador RENAST no Sistema Único de Saúde SUS e dá outras providências. Diário Oficial da República Federativa do Brasil, Brasília, DF, 7 dez. 2005. [Acesso 29 set 2019]. Disponível em: https://www.saude.mg.gov.br/images/documentos/portaria2437.pdf 37. Rocha ME, Freire KP, Dos Reis WPD, Vieira LTQ, De Sousa LM. Factors that occur the index of depressive and anxiety disorders in nursing professionals: a bibliographic review. Braz J Dev. 2020;6(2):9288-305. doi: 10.34117/bjdv6n2-296
- 38. Lelis KCG, Brito RVNE, Pinho S, Pinho L. Symptoms of depression, anxiety and drug use among university students. Rev Portuguesa Enferm Saúde Mental. [Internet]. 2020 [cited July 8 2020]; (23):9-14. doi: 10.19131/rpesm.0267
- 39. Figueiredo AM Júnior, Pereira JS, Cardoso JAC, Santa Brígida GV, Frazão J M, Fernandes CS, et al. Scientific production about bullying in nursing work relationships in Brazil. Rev Esc Enferm USP. 2020;3:e2742. doi: 10.25248/reaenf.e2742.2020
- 40. Timenetsky KT, Castro CA, Eid RC, Carnieli-Cazati D. Prevalence of burnout syndrome among physiotherapist working in intensive care units and

step down unit. Intensive Care Med Exp. 2015;3(suppl 1):A722. doi: 10.1186/2197-425X-3-S1-A722

- 41. Barreto MMS. Assédio moral: trabalho, doenças e morte. In: Lima CQB, Oliveira JA, Maeno M. Seminário compreendendo o assédio moral no ambiente de trabalho. São Paulo: Fundacentro; 2013. p. 13-26. Disponível em: http://www.assediomoral.ufsc.br/files/2013/03/ Seminario-Combate-AMT-Fundacentro-2013.pdf
- 42. Moraes SM, Magrini DF, Zanetti ACG, Santos MA, Vedana KGG. Attitudes and associated factors related to suicide among nursing undergraduates. Acta Paul Enferm. 2016;29(6):643-49. doi: 10.1590/1982-0194201600090
- 43. Ministério da Saúde (BR). Portaria nº 2.436, de 21 de setembro de 2017. Aprova a Política Nacional de Atenção Básica, estabelecendo a revisão de diretrizes para a organização da Atenção Básica, no âmbito do Sistema Único de Saúde (SUS). Diário Oficial da República Federativa do Brasil, Brasília, DF, 21 set. 2017. [Acesso 20 jul 2020]. Disponível em: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2017/prt2436_22_09_2017.html 44. Schilling RSF. More effective prevention in occupational health practice? J Soc Occup Med. 1984;34(3):71-9. doi: 10.1093/occmed/34.3.71
- 45. Dias EC. Doenças relacionadas ao trabalho: manual de procedimentos para os serviços de saúde. Brasília: Ministério da Saúde do Brasil; 2001. p. 580. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/doencas_relacionadas_trabalho_manual_procedimentos.pdf
- 46. Oliveira MEC, Gomes KAL, Nóbrega WFS, Gusmão ECR, dos Santos RD, Franklin RG. Temporal suicide series in Brazil: what changed after the "Setembro Amarelo"?. REAS. 2020;(48):e3191. doi: 10.25248/reas.e3191.2020
- 47. Alves R. Conversas com quem gosta de ensinar. 10th ed. Campinas: Papirus; 2008. p. 15-7.
- 48. Manyalich M, Mestres CA, Ballesté C, Páez G, Valero R, Gómez MP. Organ procurement: Spanish transplant procurement management. Asian Cardiovasc Thorac Ann. 2011;19(3-4):268-78. doi: 10.1177/0218492311411590
- 49. Paiva LE. A arte de falar da morte para crianças. Aparecida: Ideias & Letras; 2011. p. 35-9.

Author's Contribution

Study concept and design: Carlos Alexandre Curylofo Corsi, Alan Vinicius Assunção Luiz, Álefe Saloum Cintra, Natássia Condilo Pitta and Talita Silva Queiroz. Obtaining data: Carlos Alexandre Curylofo Corsi, Talita Silva Queiroz and Alan Vinicius Assunção Luiz. Data analysis and interpretation: Carlos Alexandre Curylofo Corsi, Alan Vinicius Assunção Luiz, Álefe Saloum Cintra, Natássia Condilo Pitta and Talita Silva Queiroz. Statistical analysis: Carlos Alexandre Curylofo Corsi, Alan Vinicius Assunção Luiz, Álefe Saloum Cintra and Natássia Condilo Pitta. Drafting the manuscript:: Carlos Alexandre Curylofo Corsi, Alan Vinicius Assunção Luiz, Álefe Saloum Cintra and Natássia Condilo Pitta. Critical review of the manuscript as to its relevant intellectual content: Milena Flória-Santos and Ana Cláudia da Silva Paschoal

All authors approved the final version of the text.

Conflict of interest: the authors have declared that there is no conflict of interest.

Received: July 9th 2020 Accepted: July 28th 2020

Copyright ⊚ **2020 SMAD, Rev. Eletrônica Saúde Mental Álcool Drog.**This is an Open Access article distributed under the terms of the Creative Commons (CC BY-NC).

This license lets others remix, tweak, and build upon your work noncommercially, and although their new works must also acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms.

Corresponding Author:
Carlos Alexandre Curylofo Corsi
E-mail: carlos_ccorsi@hotmail.com
bhttps://orcid.org/0000-0002-2983-1436