

## TRACKING SUICIDAL IDEATION IN EMERGENCY HEALTH PROFESSIONALS: SCOPE REVIEW

### RASTREAMENTO DE IDEAÇÃO SUICIDA EM PROFISSIONAIS DA SAÚDE DA EMERGÊNCIA: REVISÃO DE ESCOPO

Adriane da Cunha Aragão Rios Fagundes<sup>I\*</sup>, Renata Pascoal Freire<sup>II</sup>, Heleni Aires Clemente<sup>III</sup>,  
Stella Costa Valdevino<sup>IV</sup>, Ana Cristina de Macedo Santos V, Cleyton César Souto Silva<sup>VI</sup>

**Abstract.** Objective: To identify and map suicide risk instruments for healthcare professionals in hospital emergency care. Method: Scoping review carried out from May to August 2023 based on the recommendations of the Joanna Briggs Institute, according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews guideline. The study protocol was registered in the Open Science Framework. The PCC mnemonic was used: P for Population – health technologies; C for Concept – suicide; C for Context – health personnel. The inclusion criteria were research that responded to the objective of this study, published online, in full, and materials such as books, manuals, protocols and legislation from ministerial bodies or entities specialized in the area and without a time limit, and the exclusion criteria were editorials, theoretical essays and the presence of repeated studies. Results: 120 studies were analyzed, of which 46.61% were aimed at health professionals, 33.33% at health services in general and 30.70% at hospitals, most of which presented soft-hard technologies, demonstrating the prevalence of mental health, impacts and psychosocial factors at work, thus contributing to the verification of management processes. Regarding the years of publications, there was a significant increase after the COVID-19 pandemic. It was found that 59.65% of the studies covered the area of medicine, 21.93% of psychology and 14.91% of nursing. Conclusion: it was observed that there is no suicide risk instrument aimed at the target audience, only studies favoring the verification of circumstances and risk factors for suicidal ideation, requiring the structuring of a prevention instrument.

**Keywords:** Nursing; risk assessment; health personnel; hospital emergency service; suicide.

**Resumo.** Identificar e mapear os instrumentos de rastreamento do risco de suicídio para profissionais da saúde da urgência e emergência hospitalar. A revisão de escopo realizada de maio a agosto de 2023, fundamentada nas recomendações do Joanna Briggs Institute, seguindo o guideline Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews. O protocolo do estudo foi registrado no Open Science Framework. Empregou-se o mnemônico PCC: P de População – tecnologias em saúde; C de Conceito – suicídio; e C de Contexto – pessoal de saúde. Os critérios de inclusão foram pesquisas que respondessem ao objetivo deste estudo, publicadas online, na íntegra, bem como materiais como livros, manuais, protocolos e legislações de órgãos ministeriais ou entidades especializadas na área, sem limite temporal. Os critérios de exclusão foram editoriais, ensaios teóricos e estudos repetidos. Foram analisados 120 estudos, dos quais 46,61% eram voltados para profissionais de saúde, 33,33% para serviços de saúde em geral e 30,70% para hospitais. Em sua maioria, apresentaram tecnologias leve-duras, com demonstração da prevalência de problemas de saúde mental, bem como dos impactos e fatores psicossociais relacionados ao trabalho, contribuindo para a verificação de processos gerenciais. Com relação aos anos de publicação, verificou-se uma elevação significativa após a pandemia da COVID-19. Observou-se ainda que 59,65% dos estudos pertenciam à área da medicina, 21,93% à psicologia e 14,91% à enfermagem. Observou-se que não há instrumento de rastreamento do risco de suicídio direcionado especificamente ao público-alvo investigado, havendo apenas estudos que favorecem a identificação de circunstâncias e fatores de risco para ideação suicida, o que evidencia a necessidade de estruturar um instrumento específico de prevenção.

<sup>I\*</sup>Enfermagem, mestre, Universidade Federal do Rio Grande do Norte, Programa de Pós-graduação em Gestão e Inovação em Saúde  
adriane.aragao08@hotmail.com  
59078-900, Natal, Rio Grande do Norte, Brasil  
<https://lattes.cnpq.br/9681445342410261>  
<https://orcid.org/0000-0003-3041-598X>

<sup>II</sup>Enfermagem, pós-doutora, Universidade Federal de Santa Catarina, Programa de Pós-Graduação em Enfermagem  
88040-900, Florianópolis, SC, Brasil  
<http://lattes.cnpq.br/2164918203082963>  
<https://orcid.org/0000-0003-4366-7123>

<sup>III</sup> Nutrição, doutora, Universidade Federal do Rio Grande do Norte, Programa de Pós-Graduação em Gestão e Inovação em Saúde  
59078-900, Natal, RN, Brasil  
<http://lattes.cnpq.br/2608192490586369>  
<https://orcid.org/0000-0002-2180-6754>

<sup>IV</sup>Enfermagem, doutora, Universidade Federal da Paraíba, Departamento de Enfermagem Clínica  
58000-000, João Pessoa, PB, Brasil  
<http://lattes.cnpq.br/4230971220581013>  
<https://orcid.org/0000-0003-3099-9495>

<sup>V</sup>Gestão Hospitalar, mestre, Universidade Federal do Rio Grande do Norte, Programa de Pós-graduação em Gestão e Inovação em Saúde  
59078-900, Natal, Rio Grande do Norte  
Brasil, <http://lattes.cnpq.br/5343821647179846>  
<https://orcid.org/0000-0001-6508-7678>

<sup>VI</sup>Enfermagem, doutor, Departamento de Enfermagem Clínica, Universidade Federal da Paraíba  
58051900, João Pessoa, PB, Brasil.  
<http://lattes.cnpq.br/1427974355011397>  
<https://orcid.org/0000-0002-6187-0187>

## INTRODUCTION

Suicide is one of the main public health problems in the world according to the World Health Organization. 1 Most cases occur in underdeveloped and developing countries, with an annual rate of 700 thousand affected people, and in Brazil there was an increase in deaths from suicide attempts in all regions.<sup>2</sup>

Suicide is a phenomenon of multifactorial complexity in which several elements contribute to its occurrence, among the main influences are previous suicide attempts, the presence of psychic disorders, lack of hope, helplessness, despair, impulsivity, age group, gender, among other factors.<sup>3</sup> With regard to health professionals, the rates of depression symptoms and the incidence of suicide are high and occur with the collaboration of stress in the work environment and exhaustive routine, corroborating the data on the relationship between suicide risk and the profession, where health professionals belong to the occupational group with the highest risk, especially among physicians and nurses.<sup>4,5</sup>

In addition, these workers may face extreme situations, which can be exemplified by the COVID-19 pandemic, which was a major adversity for the health system, leading to more than 5 million deaths worldwide in a short period.<sup>6</sup> With all the complications, impacts, and challenges generated from the pandemic, an already existing scenario has worsened, there is a need for greater attention to the health of workers.<sup>7</sup> Adopting specific strategies with actions aimed at the use of techniques and moments that lead to the achievement of the physical and mental well-being of health professionals is essential to avoid damage to health and generate a higher quality of personal and professional life.

It is noteworthy that sectors such as urgency and emergency make their professionals constantly experience complex situations, which can lead to acute stress reactions and psychological suffering due to adaptations to the routine.<sup>9</sup> The urgency and emergency scenario is also permeated by the high demand of patients with imminent risk of death, unexpected occurrences, long working hours, impositions by managers, demands from users, short time to provide care, and there are cases in which the safety of the team is put at risk, making it essential to take care of mental health and follow-up by health professionals in the sector.<sup>7,10</sup>

Thus, it is crucial that health institutions adopt measures in advance to identify and track possible risks, through the implementation of management strategies and preventive monitoring of these professionals in order to avoid illness and even mortality of thousands of professionals.<sup>2,11</sup> Thus, the objective of this review is to identify and map screening instruments for the risk of suicidal ideation for urgent and emergency health professionals.

## MATERIAL AND METHODS

The study comes from the Master's Program in Health Management and Innovation (PPGIS) at the Federal University of Rio Grande do Norte (UFRN). It consists of a scoping review based on the Joanna Briggs Institute (JBI)<sup>12</sup> guidelines and recommendations of the international guide Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR)<sup>13</sup>, in line with the theoretical framework of Arksey and O'Malley (2005). The study had its protocol registered in the Open Science Framework, with DOI identification.

Articles, dissertations and theses were verified in seven national and international databases using the PCC mnemonic: P for Population – Health Personnel; C for Concept – Risk Assessment; C for Context – Emergency Service (Hospital). To compose the search key, the synonyms, keywords and free terms for the descriptors were verified through the Medical Subject Heading (MeSH) for use in the English databases and according to the DECS (Health Sciences Descriptors), associated with the Boolean operators OR and AND for the PCC strategy mentioned above. Thus, it was obtained: "Health Personnel (Health professionals) AND Risk Assessment (suicide risk scale OR Assessment, Health Risk) AND Emergency Service, Hospital (medical emergencies)". And also with the search key in Portuguese "Health Personnel OR (Health Professionals) AND Risk Measurement (Suicide Risk Scale OR Health Risk Assessment) AND Emergency Hospital Service (Medical Emergencies)".

Data collection was carried out from May to August 2023, initially with the search for similar studies in the DARE, JBI COOnNECT+, The Cochrane Library, and International prospective register of systematic reviews

(PROSPERO) databases based on the descriptors: risk measurement, suicide, and health personnel. It is noteworthy that no similar studies were found.

The survey was carried out in the PROSPERO, U. S. National Library of Medicine (PUBMED), JBI COOnNECT+, DARE, The Cochrane Library, SCIELO (Scientific Electronic Library Onlines) and LILACS (Latin American and Caribbean Literature in Health Sciences) databases and used the research strategy by the Federated Academic Community (cafe) integrated with the Portal of Journals of the Coordination for the Improvement of Higher Education Personnel (CAPES). accessing as a student at the Federal University of Rio Grande do Norte (UFRN). Gray literature research was also used in the Theses and Dissertations Portal of the Coordination for the Improvement of Higher Education Personnel (CAPES), in the Ministry of Health Virtual Health Library (BVMS), in the National Electronics Theses and Dissertations Portal and Theses Canada and in the Academic Archive Online.

The inclusion criteria were research that responded to the objective of the study, published online, in full, and materials such as books, protocols, manuals, and legislation of ministerial bodies or entities specialized in the area, and without time and language limits, and the exclusion criteria were theoretical essays, editorials, and the presence of repeated studies.

The following study variables were analyzed: database, country of origin of the study, year of publication, area of knowledge, type, objective and approach of research, target population, technological modality in the health area, type of technological instrument, phase of health technology if explicit in the study, advantages of using or creating technological technology in health, disadvantages seen in the use or creation of the type of health technology, situational context of use and the target audience of the technology.

The RAYYAN search web manager (<https://www.rayyan.ai/>) was used to perform a rapid screening of publications found 14 in PUBMED, since an exponential number of publications (36,713) was found. Through RAYYAN, it was possible to verify possible duplicates, observe the included studies, and include and/or exclude studies more easily through the use of keywords, as shown in the figure below.<sup>14</sup>

Because this was a review study with data in the public domain, there was no submission to the ethics committee.

## RESULTS

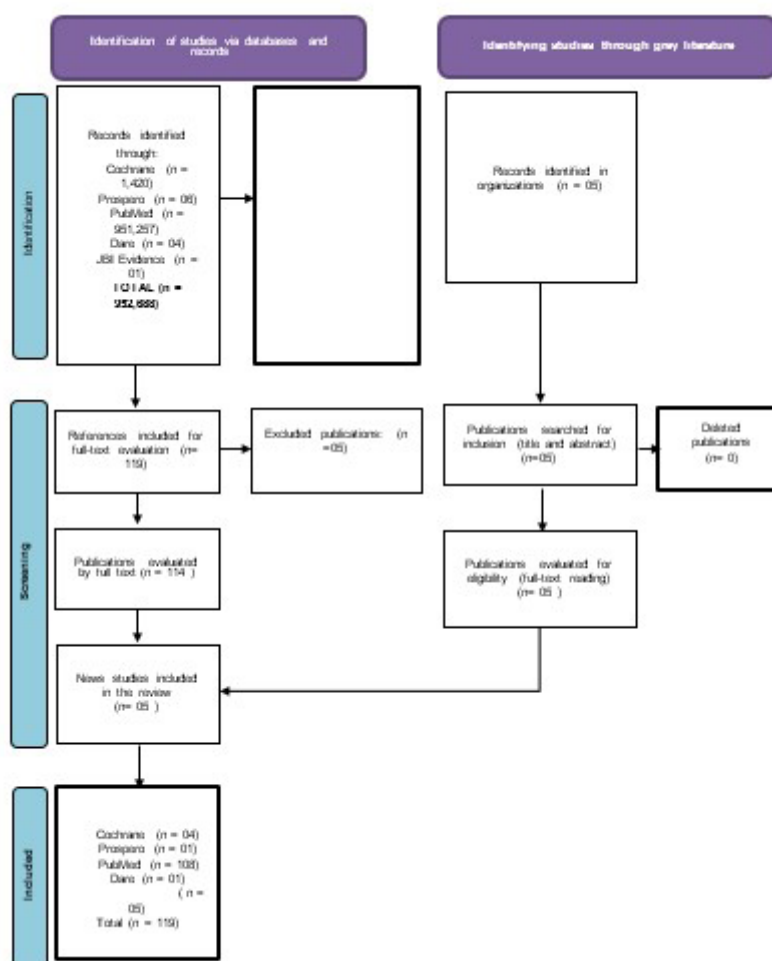
PUBMED was the database whose searches had exponential results, presenting 951,257, of which 256,464 were full and free texts. Excluding "books and documents", 36,713 remained, which were analyzed based on the inclusion criteria and through the RAYYAN strategy for screening research. As shown in table 1.

**CHART 1.** Database search strategies, Natal, RN, Brazil, 2024

Database	Search strategy	Results
<b>COCHRANE LIBRARY</b>	Health Technology OR (Patient health questionnaire OR suicide risk scale OR assistive technologies) AND Suicide OR (mental disorders OR suicidal ideation) AND Health Personnel OR (health staff OR Health professionals)	1420
<b>DARE</b>	Health Technology OR (Patient health questionnaire OR suicide risk scale OR assistive technologies) AND Suicide OR (mental disorders OR suicidal ideation) AND Health Personnel OR (health staff OR Health professionals)	04
<b>JBI EVIDENCE SYNTHESIS</b>	Health Technology OR (Patient health questionnaire OR suicide risk scale OR assistive technologies) AND Suicide OR (mental disorders OR suicidal ideation) AND Health Personnel OR (health staff OR Health professionals)	01
<b>PUBMED</b>	Tecnologias em Saúde (Questionário de saúde do paciente OR Escala de risco de suicídio OR tecnologias assistenciais) AND Suicídio (Transtornos mentais OR Ideação suicida) AND Pessoal de Saúde (Pessoal da saúde OR Profissionais de saúde)	951.257
<b>PROSPERO</b>	Health Technology OR (Patient health questionnaire OR suicide risk scale OR assistive technologies) AND Suicide OR (mental disorders OR suicidal ideation) AND Health Personnel OR (health staff OR Health professionals)	06

Source: The authors (2025)

Through RAYYAN, 2,699 duplicates were screened, 53 of which were non-duplicated, and the keywords were used for possible inclusion in studies, namely: health professionals, mental health, suicide, emergency room, suicidal ideation, emergency professionals, urgency and emergency and suicide risk scale, while the three most cited keywords for possible exclusion were: cancer, infection, diabetes. By observing the inclusion and exclusion criteria, 108 studies were included in PUBMED. Reaching the amount of 114 works with the other databases (figure 1).



**FIGURE 1.** PRISMA ScR Flowchart Adapted from the study selection process, Natal, RN, Brazil, 2024  
Source: The authors (2025)

After analyzing the studies in each database, it was found that 108 (94.7%) were found in PUBMED, four (3.5%) in the Cochrane Library, and one (0.88%) was found in PROSPERO and DARE. No searches were found in SCIELO, LILACS and JBI. The accentuated number of systematic reviews over time is evident. A cross-sectional study was also identified in the Brazilian Journal of Nursing (REBEN), which used an instrument called Mini International Neuropsychiatric Interview (MINI) to assess the risk of suicide among physicians and nurses<sup>15</sup>, although it does not specify peculiarities provided by the urgency and emergency sector, with its possible risk factors for suicidal ideation.

Regarding the years of publications, there is a sharp increase after the COVID-19 pandemic. It is important to note that the Pan American Health Organization (2021) and the World Health Organization determined the COVID-19 pandemic on March 11, 2020<sup>16</sup>. One (0.88%) study was found in each of the years: 1979, 1984, 2004, 2009, 2012 and 2017; two (1.75%) for each of the years 2008, 2010 and 2015; three (2.63%) for each of the years 2011 and 2016; four studies for each of the respective years: 2003, 2013, 2014, 2018, 2019; 23 (20.17%) surveys corresponding to the years 2020 and 2022; 22 (19.30%) in 2021; eight (7.08%) in 2023.

In relation to the areas of knowledge, the following number was observed: 68 (59.65%) in medicine, 25 (21.93%) in psychology, 17 (14.91%) in nursing, and one (0.88%) in each of the following partnerships between areas of knowledge: medicine and psychology, medicine and hospital management, collective health and pharmacy, and nutrition, medicine and pharmacy.

Regarding the types or perspectives of the technologies used, it was verified that 95 (83.33%) of these studies were focused on the managerial sphere, aiming to positively modify the scope of mental health in the environment and in what surrounds it; and 19 (16.7%) focused on the educational perspective. It is noteworthy that no suicide risk instrument was obtained among urgent and emergency health professionals, but it was found that there are several studies aimed at understanding the mental health of civil servants analyzing risk factors, which is crucial for the creation of a screening instrument.

Regarding the type of technology used, there was a predominance of soft-hard technologies, where the studies analyzed for the most part the prevalence of mental disorders or possible circumstances that contribute to suicidal ideation. Technological tools are classified as soft, soft-hard and hard<sup>17</sup>. In other words, soft technologies are related to relationships, such as welcoming and accountability, soft-hard ones consist of those in which teachings are structured for possible actions, such as epidemiology, and hard technologies refer to equipment or materials such as standards, machines, and organizations<sup>18</sup>.

According to the type of approach, 40 (35.09%) were systematic reviews, 22 (19.30%) literature reviews, 14 (12.28%) systematic reviews and meta-analysis in the same study, seven (6.14%) descriptive research, five (4.38%) narrative reviews, four (3.51%) meta-analyses and the same value for scoping reviews, two (1.75%) for each of the following studies: conceptual reviews, randomized clinical trial, and qualitative review research. The other studies corresponded to only one (0.88%) Delphi method, Pragmatic and Randomized Controlled Clinical Trial, cross-sectional study, exploratory and applied research, longitudinal and analytical research, multicenter cross-sectional research, umbrella study of meta-analyses, systematic review with narrative synthesis, qualitative and quantitative research, systematic and descriptive review, critical review, and finally, systematic review and meta-regression.

As for the target population of the studies, 42 (36.84%) were health professionals in general, 12 (10.53%) were physicians, nine (7.89%) were nurses, five (4.38%) were various professionals from various segments, four (3.52%) were from the general population, three (2.63%) from publications for each of the audiences of anesthesiologists, emergency physicians, frontline workers against COVID-19, people with mental disorders, mental health professionals, health professionals and the population. Also, two (1.75%) for each of the audiences: emergency nurses, first responders, medical students and nursing professionals. It is noteworthy that these findings show the large presence of risk factors for suicidal ideation among health professionals, that is, one more contributing factor to the act, requiring greater attention. Such data need a better approach and monitored in a possible instrument for the stratification of this risk.

The environment where the professional works is crucial to understand where there is a need for greater caution with the professionals working. Pertaining to the places where technologies are used and where the studies are directed, it can be seen that 38 (33.33%) are focused on health services in general, 35 (30.70%) on hospitals, 19 (16.67%) on all environments, 11 (9.65%) on emergency services, four (3.51%) on primary health care, two (1.75%) on universities and the same amount for virtual environments, and one (0.88%) to emergency services and clinics, military service, mental health environments. The places to which the studies were directed have already evidenced the publics of possibility of allocating the theme studied or even the technology analyzed, where 52 (46.61%) are directed to health professionals in general, 14 (12.28%) to the general population, 13 (11.40%) to doctors, nine (7.90%) to nurses and 12 (10.52%) corresponding to the sum of other professions.

## DISCUSSION

It is essential to seek the prevention of cases through interventions, from the broadest that encompass the whole society in its various environments, to more specific ones, such as in health care sectors.<sup>19</sup> Despite being a relevant public health problem, there is a lot of underreporting of suicide cases, reflected in epidemiological data, and this occurs due to cultural and even religious stigmatization, Hindering the verification of the extent of the problem, therefore, there is a need for change in the work process in health services, with the purpose of using strategies to prevent suicidal behavior.<sup>20</sup>

It is important to emphasize that the telltale signs of suicidal thinking and consummation of the case in adults are the following: affective isolation, feeling of loneliness, helplessness and hopelessness, self-contempt, search for ways to commit suicide, existential crisis, routine exposure to risk situations, presence of suicide cases in the family or close people, and relationship problems<sup>21</sup>.

With the pandemic of the new coronavirus, there was the enhancement of factors that affect the mental health of health professionals, such as: economic concerns, precarious working conditions, infected family members or friends, changes in services or functions, and discrimination by society. In general, the underlying factors considering the pandemic period that favor the emergence of suicidal tendencies and ideation consist of: depression, anxiety, mental disorders diagnosed before the pandemic or suicide attempt prior to the period, living alone, having problems with alcohol and other drug use<sup>22</sup>.

According to the Centro Estadual de Referência em Saúde do Trabalhador do Mato Grosso do Sul (“State Reference Center for Workers' Health of Mato Grosso do Sul”) (2019)<sup>23</sup> some situations can lead to mental damage to workers' health and lead to fatigue, depression, and even suicidal ideation, among them are: long working hours, unstable jobs, inadequate wages, living with pain, death, and daily suffering, occupational stress, damage to professional careers and obstacles in the social and family sphere.

In a study conducted by the Brazilian Ministry of Health and the Oswaldo Cruz Foundation (FIOCRUZ)<sup>24</sup>, in the Brazilian state of Mato Grosso do Sul and in the Federal District, the presence of symptoms of depression, stress and anxiety disorders was evaluated in the entire health care network with the target audience of health professionals, and the presence of symptoms of depression, stress and anxiety disorders was evaluated, with a higher prevalence of anxiety and depression. classified as extremely severe. Regarding stress classified as severe, it was found that the most affected class was nursing professionals, followed by medical professionals and pharmacists. These data are also corroborated by the analysis of the prevalence in the various studies analyzed.

Regarding the category of physicians, a study conducted by Dutheil et al<sup>25</sup> observed that some specialties have a higher risk for suicide, such as: anesthesiologists, psychiatrists, general surgeons and general practitioners. While anxiety is at higher risk for anxiety among women and nurses, compared to physicians, in addition, being on the front line of COVID-19, infected with coronavirus, and having some comorbidity were also factors to generate a higher risk of anxiety<sup>26</sup>.

Despite the identification of multiple alarming factors affecting the mental health of healthcare professionals, there is a scarcity of interventions with psychosocial methods specifically aimed at preventing suicidal ideation, such as brief cognitive-behavioral interventions, occupational stress management strategies, institutional psychological support, and actions to promote resilience in the workplace<sup>27</sup>. However, twenty instruments were identified as being used to assess suicide risk, among which the Beck Scale for Suicidal Ideation (BSI), aimed at measuring the intensity of suicidal ideation through self-report, and the Columbia - Suicide Severity Rating Scale (C-SSRS), used in clinical contexts to assess the severity and presence of suicidal behaviors, stand out. Despite their widespread use, these instruments have significant limitations, such as a lack of specificity for occupational populations, especially for emergency and urgent care healthcare professionals, and they do not consider psychosocial and occupational factors of healthcare work, as well as limitations regarding their applicability in high-demand care settings<sup>28</sup>. Thus, there is no gold-standard instrument for screening suicide risk in the workplace that can comprehensively integrate psychopathological, psychosocial, and organizational aspects involved in suicidal behavior.

It is noteworthy that no suicide risk screening instrument was found among urgent and emergency health professionals, but several studies were seen that relate risk factors for workers' mental health and also for suicidal ideation.

Regarding the limitations of this study, the deficit of publications on suicide risk screening instruments among health professionals or other technology with the same purpose is listed.

## FINAL CONSIDERATIONS

According to the review carried out, there is a need for greater dissemination of this theme, as there is still a shortage of technologies on the subject. Most studies identify risk factors for suicide using general scales, and there is a gap to encourage research focused on developing an instrument with tools capable of tracking suicide risk in health professionals in their sectors of activity.

Thus, the need to create an instrument to screen suicide risk among health professionals in the emergency service as a strategy for case prevention is evidenced, given the prevalence of risk factors that directly affect the mental health of workers in the sector addressed in the studied publications, which may lead to this fact.

The creation of an instrument for this specific audience is an innovative proposal for workers' health care, demonstrating appreciation and providing care for the server, in addition, this technology can help reduce cases of suicide attempts and will bring the use of guiding actions in the centers of assistance to the server.

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