

## NON-COMMUNICABLE CHRONIC DISEASES AND THEIR RELATIONSHIP WITH SUICIDAL BEHAVIOR IN HOSPITAL CONTEXT<sup>1</sup>

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### ABSTRACT

**Objective:** This study aimed to learn about what is being produced by scientific publications on the relationship between non-communicable chronic diseases and suicidal behavior in hospital context. **Method:** A literature integrative review was carried out with articles published between 2006 and 2016 on SciELO Virtual Library and these databases: Portal BVS, Scopus, Web of Science, and Pubmed. **Result:** The mental health of patients with non-communicable chronic diseases may be heavily affected, putting them in a position of risk for suicidal behavior. Researches in different countries and with different methodologies have evidenced lack of knowledge and preparation from healthcare teams at general hospitals in the face of suicide within the studied population. **Conclusion:** Professionals working with high-complexity care urgently need training and qualification to identify and properly handle suicidal behavior in hospital context. Moreover, every patient admitted to chronic disease sectors must go through a more comprehensive anamnesis that includes specific questions concerning mental health and risk of suicide.

**Keywords:** Chronic Diseases. Suicidal Behavior. General Hospital.

### INTRODUCTION

Suicidal behavior can be understood as any act through which one harms himself or herself, regardless of degree of lethal intention<sup>(1)</sup>. With respect to deaths caused by this behavior, it is possible to observe an expressive worldwide increase as of the 1960s, which has led the World Health Organization to consider suicide as a serious public health issue<sup>(2)</sup>. Since the 1990s, many countries have been making efforts to design suicide prevention strategies and develop adequate means to warn and instruct the population about risk factors.

As for Brazilian epidemiological data, 11,433 suicides were officially reported in 2016, which represents an average of 31 deaths every day, as pointed out by the Mortality Information System<sup>(3)</sup>.

There is a number of risk factors for suicidal behavior, including sociodemographic aspects, presence of mental disorders, psychological aspects and disabling physical illnesses<sup>(4)</sup>. About the first factor, the following particularities are considered: males, extreme economic strata – excess or lack of

decent living conditions –, residents of urban areas, the unemployed, retirees, atheists, singles or divorcees, and immigrants<sup>(4,5)</sup>.

When it comes to mental disorders, some changes pose greater risk, such as mood disorders, depression and bipolar affective disorder; anxiety disorders; personality disorders, especially borderline, narcissistic and antisocial; schizophrenia and behaviors derived from dependence on or abuse of alcohol and other psychoactive substances<sup>(5)</sup>.

Some psychological aspects are also deemed important risk factors for suicidal behavior, including recent losses, loss of parental figures during childhood, problematic family dynamics, important dates, birthday reactions, and personality with significant traits of impulsiveness, aggressiveness and labile mood<sup>(4,5)</sup>.

Last, but not least, some disabling clinical diseases stand out for influencing the living context of patients, which, combined with lack of emotional, social and family support, may generate feelings of despair, profound distress, or even uselessness. Such changes may lead people to think about and plan their own death if they are not treated and observed in time<sup>(6,7)</sup>.

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It is worth noting that, in cases of physical diseases, suicidal behavior may include intentional treatment withdrawal, explicitly or implicitly, because, in general hospital routines, it is common to perceive self-destructive behaviors that manifest slowly, progressively and subtly<sup>(1,6,8)</sup>.

Among the abovementioned risk factors, priority will be given to physical diseases, still rarely explored in researches within the Brazilian public health field. This is necessary because, from the 1960s, following a global trend, Brazil presented some epidemiological transition processes that have produced important changes to the profile of diseases that affect the population, thus bringing about a new scenario that is mainly configured by the expressive increase of Non-Communicable Chronic Diseases (NCCDs)<sup>(9)</sup>.

Some of these changes are evidenced by the significant decrease of fertility and birth rates, by the progressive increase of life expectancy, and by the proportion of senior citizens compared to other age groups. Additionally, it is possible to see a new morbimortality profile, conditioned to both regional diversity and characteristics concerning socioeconomic profile and access to healthcare services. This transition model resulted, for different regions, in the growth of morbimortality by NCCDs in recent decades<sup>(9,10)</sup>.

Therefore, the objective of this study was to verify the relationship between non-communicable chronic diseases and suicidal behavior in hospital context.

## METHOD

This is a literature integrative review aimed at gathering and summarizing scientific knowledge produced so far about the investigation theme. Thus, it seeks to go after, assess and synthesize available pieces of evidence to develop the theme in question<sup>(11)</sup>. All six steps indicated by the integrative review method were taken, namely: 1) definition of the research hypothesis or question, 2) sampling or search in the literature, 3) study categorization, 4) assessment of studies included in the review,

5) interpretation of results, 6) summarization of knowledge or presentation of the review<sup>(11)</sup>.

In the first step, the theme was defined, which concerns the increase of suicide rates in Brazil and worldwide, and the research object was established as well, namely, the relationship between non-communicable chronic diseases and suicidal behavior in hospital context.

In the second step, keywords were chosen for the search, using Health Sciences Descriptors (DeCS) in Portuguese and English, respectively, *doença crônica*, *comportamento suicida*, *suicídio*, *hospital*; chronic disease, suicidal behavior, suicide, hospital. The inclusion criteria were: original articles, published in full, in Portuguese, English or French; publications from 2006 to 2016, with themes that specifically approached suicidal behavior in patients with non-communicable diseases who had been hospitalized or were undergoing outpatient treatments in general hospitals. The exclusion criteria were: publications categorized as editorials, letters or the like; studies focused on emergencies and first aid, and articles that did not address the research theme.

The search strategy included investigations conducted internationally and in Brazil and covered articles indexed in the Scientific Electronic Library Online (SciELO), and on healthcare databases – Portal BVS, Scopus, Web of Science, Pubmed. The literature search period comprehended the months of October and November 2017. A total of 436 articles were found, 391 of which were excluded for not meeting one inclusion criterion or more, and 02 for being repeated. Thus, 43 articles actually met the criteria related to the search strategy and were included in the study (Figure 1).

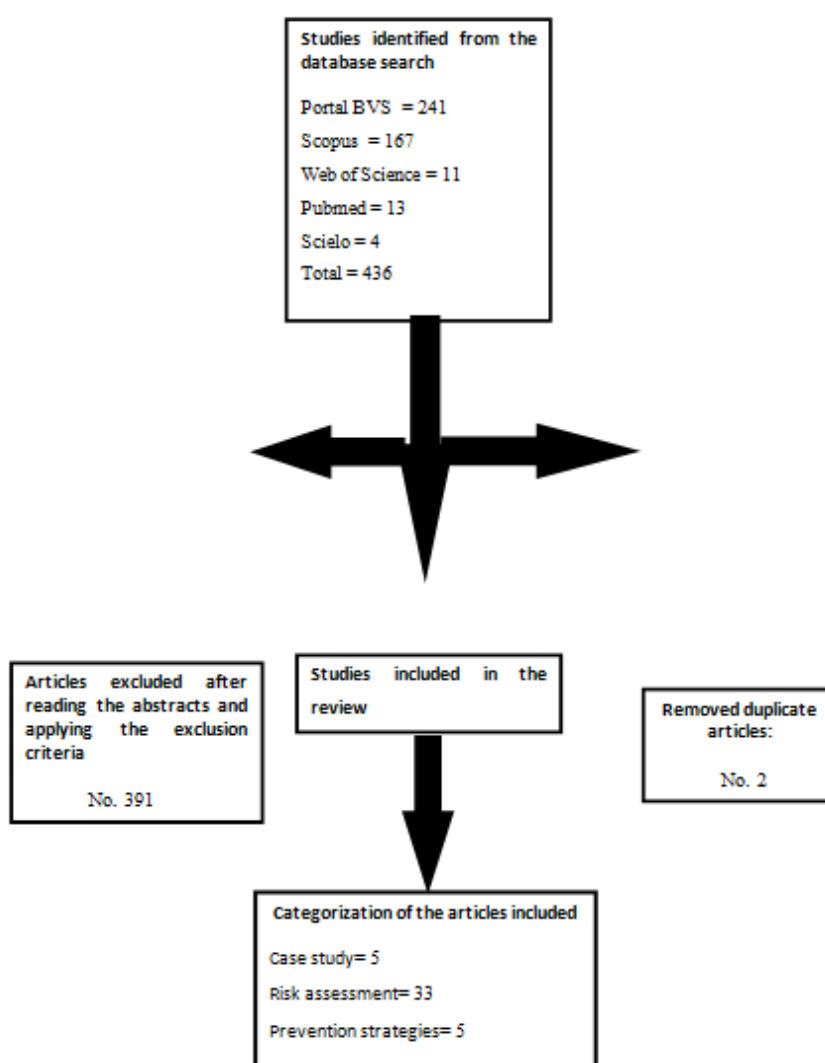
In the third step, after the articles were fully read, results were systematized through the construction of tables covering title, author, country and year (Tables 1, 2, 3). Furthermore, the articles were categorized according to the themes that would emerge during the in-depth analysis of studies. The main analysis categories were clinical case studies involving patients with suicidal behavior; authors' views on the reasons that

lead a patient to suicidal behavior, and assessment of risk factors for these events; prevention strategies and proposals.

In the fourth step, a detailed and critical analysis was carried out, in which the research question and the employed study types were assessed, checking if the problem concerning the research was properly addressed.

The fifth step was meant for the actual interpretation, with a consequent discussion on main results found, identification of possible gaps, and suggestions for future researches. Lastly, in the sixth step, knowledge was synthesized with the description and main results evidenced with the analysis of the articles in the study.

**Figure 1.** Flowchart of the Literature Integrative Review steps, 2006 - 2016.



## RESULT

The study final sample, composed of 43 articles, is presented through the categorization of results. Table 1 displays analyses performed based on case studies; Table 2 brings researches

that have sought to assess risk of suicide in patients with non-communicable chronic diseases; and Table 3 shows the latest researches about strategies aimed at preventing suicidal behavior in hospital context.

### Case study

**Table 1.** List of journals within the Case Study category, selected in the national and international integrative review about the relationship between non-communicable chronic diseases and suicidal behavior in hospital context, 2006 – 2016

CATEGORIA ESTUDO DE CASO (n = 5)			
Título	Author	Country	Year
Rapid onset of glycogen storage hepatomegaly in a type-2 diabetic patient after a massive dose of long-acting insulin and large doses of glucose	TSUJIMOTO <i>et al.</i>	Japan	2006
Intermediate syndrome after organophosphate intoxication in patient with end-stage renal disease	LEE; LIN	China	2006
Assessing for suicide risk in depressed geriatric cancer patients	LABISI	United States	2006
A shot in the dark: Failing to recognize the link between physical and mental illness	COPSEY SPRING; YANNI; LEVENSON	United States	2007
Een fatale auto-intoxicatie met metformine	DE PONT <i>et al.</i>	The Netherlands	2007

Source: The authors.

### Risk Assessment

**Table 2.** List of journals within the Risk Assessment category, selected in the national and international integrative review about the relationship between non-communicable chronic diseases and suicidal behavior in hospital context, 2006 – 2016

CATEGORIA AVALIAÇÃO DE RISCO (n = 33)				
Title	Author	Country	Year	Study Type
Hospital admissions and deaths relating to deliberate self-harm and accidents within 5 years of a cancer diagnosis: a national study in Scotland, UK	CAMIDGE <i>et al.</i>	Scotland	2007	Quantitative study
Psychiatric morbidity among patients with cancer of the esophagus or the gastro-esophageal junction: a prospective, longitudinal evaluation	BERGQUIST; RUTH; HAMMERLID	Sweden	2007	Quantitative study
Suicide among patients with amyotrophic lateral sclerosis	FANG <i>et al.</i>	Sweden	2008	Cohort population study
Better off dead: suicidal thoughts in cancer patients	WALKER <i>et al.</i>	England	2008	Quantitative study
Disability associated with comorbid anxiety disorders in women with chronic physical illness in Ontario, Canada	GADALLA, T.	Canada	2008	Quantitative study
Psychiatric symptom in cancer patients requiring immediate management	YOSHIKAWA, E.	Japan	2008	Qualitative study
Risk of suicide among operated and non-operated patients hospitalised for peptic ulcers	BAHMANYAR <i>et al.</i>	Sweden	2009	Quantitative study
Suicide and suicide risk factors: a literature review	MASANGO; RATAEMANE; MOTOJESI	South Africa	2008	Literature review
Risk factors for suicide following hospital discharge among cancer patients	LIN; WU; LEE	China	2009	Quantitative study
Dépressionssévères: comorbiditéssomatiques	COTTENCIN, O.	France	2009	Qualitative study
Depressão e comportamento suicida em pacientes oncológicos hospitalizados: prevalência e fatores associados	FANGER <i>et al.</i>	Brazil	2010	Quantitative study
Methods of suicide among cancer patients: a nationwide population-based study	CHUNG; LIN	China	2010	Quantitative study
Depression and suicide risk in hemodialysis patients with chronic renal failure	CHEN <i>et al.</i>	China	2010	Cohort population study
Death ideation in cancer patients: contributing factors	MADEIRA <i>et al.</i>	Portugal	2011	Quantitative study
Characteristics of suicide among diabetes patients: a population-based study of suicide victims in Northern Finland	LÖFMAN <i>et al.</i>	Finland	2012	Quantitative study
Suicidality and its associated factors in cancer patients: results of a multi-center study in Korea	SHIM; PARK	South Korea	2012	Quantitative study
Clinical correlates of suicidal thoughts in patients with advanced cancer	SPENCER <i>et al.</i>	United States	2012	Quantitative study
Desajuste psicológico, calidadde vida y afrontamientoen pacientes diabéticos com insuficiencia renal crónica em diálisis peritoneal	RIVERA-LEDESMA; MONTERO-LÓPEZ LENA; SANDOVAL-ÁVILA	Mexico	2012	Qualitative study

Source: The authors.

## Prevention Strategies

**Table 3.** List of journals within the Prevention Strategies category, selected in the national and international integrative review about the relationship between non-communicable chronic diseases and suicidal behavior in hospital context, 2006 - 2016.

PREVENTION STRATEGIES CATEGORY (n = 5)				
Title	Author	Country	Year	Study Type
Proposals for suicide prevention in general hospitals in Japan	KAWANISHI <i>et al.</i>	Japan	2007	Quantitative study
Assessing the risk for suicide in patients with cancer	AIELLO-LAWS.	United States	2010	Epidemiological study
Evaluating the suicide risk-screening scale used by general nurses on patients with chronic obstructive pulmonary disease and lung cancer: a questionnaire survey	TAUR <i>et al.</i>	Finland	2012	Quantitative study
What do I say? Suicide assessment and management	COOKE <i>et al.</i>	United States	2013	Quantitative study
Suicidality at the general hospital – Perspective of consultation and liaison psychiatry	IMBODEN; HATZINGER	Switzerland	2015	Qualitative study

**Source:** The authors.

## Characteristics of Included Studies

Selected articles whose countries of origin were China or United States accounted for 22.7% of all scientific production. Each country presented five scientific pieces of work in the study period. Japan and Sweden came next, with four articles; The Netherlands, Finland, Spain, South Korea and Brazil had two; and the other countries published only one study within the selected period, namely, Scotland, England, Canada, France, Portugal, Mexico, Nigeria, Peru, Lebanon, Italy, Iran, Austria, Switzerland, South Africa and Germany.

Within the study period, it was possible to observe a similar number of annual publications – about 5 per year. However, in 2011, production dropped, and only one study was published, just as in 2016. The most productive periods were 2014 and 2015.

As for the study type adopted by the authors, quantitative ones predominated (76.74%). Only 5 articles (11.62%) were dedicated to analyzing clinical cases, and 2 articles (4.65%) presented a literature systematic review on the theme. The two Brazilian articles belonged to the risk assessment category, and the authors of both conducted quantitative studies.

With respect to chronic disease types, in their turn, there was a higher prevalence of neoplasms, diabetes *mellitus* (types I and II), pulmonary conditions with different manifestations, and Chronic Renal Insufficiency (CRI). As for the last one, there were studies

about patients undergoing hemodialysis and peritoneal dialysis, as well as transplanted ones. Besides these most frequently addressed diseases, there were also mentions of Amyotrophic Lateral Sclerosis (ALS), Systemic Lupus Erythematosus, Rheumatoid Arthritis, intestinal disorders, stomach ulcers, Cerebrovascular Accident (CVA), Essential Hypertension, and Obesity.

## DISCUSSION

### Study Case Category

Among the presented studies, two of them concerned cases in which patients, both with Diabetes *Mellitus*, attempted suicide using their own treatment medication<sup>(12,13)</sup>. The authors described technical procedures, in hospital context, to change a patient's clinical conditions and explained the best means for medical approach in similar situations. There was not, however, any moment dedicated to reflections and warning about the matter. In other words, no space was created in the articles to talk about the caution that one needs to have when prescribing these drugs to patients with diabetes *mellitus*.

It is also important to highlight three other studies within this same category that describe some cases of patients with chronic diseases. Two of them<sup>(14,15)</sup> followed the same line as the abovementioned studies, since the concern of the articles was to describe medical handling and resources used. The other study<sup>(16)</sup> presented

the case of an 80-year-old elderly man with NCCD, whose outcome was not good, since the patient was provided medical assistance at a general hospital and, after discharge, killed himself at home. That article described the patient's biographical story, presented his living context and, finally, warned healthcare teams about the importance of assessing the emotional aspects of patients with NCCDs. It was further pointed out that depression is very present in these cases and deserves to be treated early and with the same quality as in the treatment of organic diseases.

### **Risk Assessment Category**

Most studies in this category were concerned about assessing and confirming the increase of suicidal behavior in patients with non-communicable chronic diseases, especially oncological ones. For this reason, 28 out of the 33 articles in this category developed studies of quantitative type<sup>(17-44)</sup>, and their main focus was to verify the presence of psychiatric disorders in patients undergoing treatment for NCCDs in hospital context. Only 03 studies carried out in-depth qualitative researches<sup>(45-47)</sup>, and 02 investigations fitted into the literature review category<sup>(48,49)</sup>.

Many researches applied assessment instruments to the study population, with the most recurrent ones being: Hospital Anxiety and Depression Scale (HADS), Patient Health Questionnaire-9 (PHQ-9), Mini International Neuropsychiatric Interview (MINI), Short-form Health-Related Quality and Life Scale, Chalder Fatigue Scale, Beck Hopelessness Scale (BHS), Beck Scale for Suicide Ideation (BSI) and Beck Depression Inventory (BDI).

The results found evidenced the emotional fragility present in patients with NCCDs, also showing how these aspects are not considered in the anamnesis performed by healthcare professionals when patients are admitted to a hospital unit. Several studies reported the presence of suicidal ideation in these patients and warned about increased risk within the first 30 days after hospital discharge.

It is also worth highlighting those studies that turned their attention to the time of diagnosis of a more aggressive and disabling disease<sup>(21,29,41)</sup>,

such as some types of cancer, and amyotrophic lateral sclerosis. The impact of the news is seen as a strong contributor to triggering a psychiatric disorder and may increase the risk of suicide. Bearing these cases in mind, it is of uttermost importance that patients are immediately referred to psychological and psychiatric treatment and follow-up.

Among the diseases mentioned in this category, neoplasms were predominant. One of the studies<sup>(41)</sup> brought as further considerations the recommendation that oncological patients, regardless of the severity of the case, should receive assistance based on the principles of palliative care, since this healthcare modality deals with the inherent aspects of ill individuals. It is a comprehensive assistance that, besides organic matters, also prioritizes a patient's psychological, social and spiritual aspects. According to the study authors, this type of assistance may be a way to prevent suicide in patients with non-communicable chronic diseases.

### **Prevention Strategies Category**

Few articles presented suicide prevention proposals, but five pieces of work were included in the research<sup>(50-54)</sup>, with all of them bringing as conclusion for their studies the importance of healthcare professionals raising awareness about the risk of suicide present in patients with a NCCD. In the authors' view, teams working at general hospitals are not attentive to the rising number of deaths by suicide in the world and do not recognize that chronic disease is one of the most important risk factors for suicidal behavior.

This lack of knowledge may prevent a risk sign or a cry for help from being noticed over the course of hospitalization. Thus, it is a consensus, in studies within this category, that there is an urgent need for training healthcare teams working at these institutions, since early identification of risk of suicide may prevent it.

The nursing team was mentioned by several authors<sup>(50,51,54)</sup> who insisted that it should be the starting point of suicide prevention strategies in hospital context, for encompassing the professionals who are closer to patients throughout the hospitalization process. Moreover, highlight is given to the relevance of

psychological follow-up in these institutions<sup>(51,53,54)</sup>.

Finally, oncological diseases are underscored as posing the highest risk for suicidal behavior, as they are still surrounded by a lot of stigma and labeled as fatal diseases, without possibility of curative treatment. This symbolism of the disease affects and shakes the emotional state of a recently-diagnosed patient, who might feel unprepared and despaired as they see in suicide a way out from their pain. The authors reinforce that these patients need close follow-up and assistance from healthcare professionals since the very beginning of the diagnosis.

### FURTHER CONSIDERATIONS

This literature integrative review allowed an overview of existing matters in Brazil and worldwide concerning the relationship between non-communicable chronic diseases and suicidal behavior in the context of general hospitals. The review strategy for analysis of articles had three categories – study case, risk assessment, and prevention strategy –, which contributed to reflections about relevant aspects debated by scientific production and that must be taken into account in the planning and development of suicide prevention actions in the routine of Brazilian general hospitals.

The analysis of articles revealed a strong presence of suicidal behavior in patients with NCCDs, and many studies pointed out lack of

knowledge and preparation from healthcare professionals in identifying and handling these situations.

From this review, it was possible to conclude that every patient with an NCCD admitted to general hospitals must be subjected to a more thorough anamnesis that comprehends their mental health aspects. It is important to ask specific questions about risk of suicide, since this will allow identifying suicidal behavior earlier in the studied population.

However, for suicide prevention to be included in hospital routine, healthcare teams need to be trained, as this theme still remains as a taboo and, oftentimes, may be silenced and ignored. This training must be given to multidisciplinary teams at hospital units. Some researches, however, stressed the importance of specific training for nursing teams, as they are closer to patients throughout the hospitalization process. Additionally, several studies also mentioned the importance of mental healthcare professionals' practice in the routine of general hospital (psychiatrists and psychologists).

Finally, it was possible to verify the prevalence of quantitative studies focused on verifying and analyzing the presence of self-destructive behaviors in patients with chronic diseases, observing as main gaps, detected by means of reviews, a lack of in-depth studies on the theme and prevention strategies within the public health context.

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## DOENÇAS CRÔNICAS NÃO TRANSMISSÍVEIS E SUA RELAÇÃO COM O COMPORTAMENTO SUICIDA NO ÂMBITO HOSPITALAR

### RESUMO

**Objetivo:** O estudo visa a conhecer o que vem sendo produzido pelas publicações científicas a respeito da relação entre a doença crônica não transmissível e o comportamento suicida no âmbito hospitalar. **Método:** Realizou-se uma revisão integrativa de literatura de artigos publicados entre os anos de 2006 e 2016 na Biblioteca Virtual SciELO e também nas seguintes bases de dados: Portal BVS, Scopus, Web of Science e Pubmed. **Resultado:** Os estudos enfatizaram que a saúde mental de pacientes portadores de doenças crônicas não transmissíveis pode ser intensamente afetada, colocando-os na posição de risco para o comportamento suicida. Pesquisas de diferentes países e metodologias evidenciaram desconhecimento e despreparo das equipes de saúde dos hospitais gerais diante do risco de suicídio no público estudado. **Conclusão:** Profissionais de saúde da alta complexidade necessitam urgentemente de treinamento e capacitação para a identificação e manejo adequado do comportamento suicida no contexto hospitalar. Além disso, todo paciente admitido nos setores de doenças crônicas deve passar por uma anamnese ampliada que inclua questões específicas sobre saúde mental e risco de suicídio.

**Palavras-chave:** Doenças crônicas. Comportamento suicida. Hospital geral.

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## ENFERMEDADES CRÓNICAS NO TRANSMISIBLES Y SU RELACIÓN CON EL COMPORTAMIENTO SUICIDA EN EL ÁMBITO HOSPITALARIO

### RESUMEN

**Objetivo:** el estudio pretende conocer qué está siendo producido por las publicaciones científicas respecto a la relación entre la enfermedad crónica no transmisible y el comportamiento suicida en el ámbito hospitalario. **Método:** se realizó una revisión integradora de la literatura de artículos publicados entre los años de 2006 y 2016 en la Biblioteca Virtual SciELO y también en las siguientes bases de datos: *Portal BVS*, *Scopus*, *Web of Science* y *Pubmed*. **Resultado:** los estudios señalaron que la salud mental de pacientes portadores de enfermedades crónicas no transmisibles puede ser intensamente afectada, poniéndoles en la posición de riesgo para el comportamiento suicida. Investigaciones de diferentes países y metodologías evidenciaron desconocimiento y falta de preparación de los equipos de salud de los hospitales generales ante el riesgo de suicidio en el público estudiado. **Conclusión:** profesionales de salud de la alta complejidad necesitan urgentemente de entrenamiento y capacitación para la identificación y el manejo adecuado del comportamiento suicida en el contexto hospitalario. Además, todo paciente admitido en los sectores de enfermedades crónicas debe pasar por una anamnesis ampliada que incluya cuestiones específicas sobre salud mental y riesgo de suicidio.

**Palabras clave:** Enfermedades crónicas. Comportamiento suicida. Hospital general.

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