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Suicide in childhood: a literatura review

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Abstract *This is an integrated review of specific literature on the main factors associated to suicidal behavior in children under 14 years. Data were retrieved from PubMed and PsycInfo databases for the 1980-2016 period, with the following descriptors: "risk of suicide"; "children"; "suicide"; "childhood". Twenty-nine papers complied with the eligibility criteria of the review and were thus selected and analyzed. Results pointed to an association of suicide with neurobiological, school-related, social and mental factors, among which the role of impulsivity stands out. In addition, results found show that most of suicidal behavior-vulnerable factors are preventable insofar as they are identified and the child receives psychological and medical treatment. We conclude that family conflicts, school-related problems, bullying, impulsivity and depression are associated with childhood suicide. In addition, the scarce national research on suicide can contribute to the invisibility of this theme when establishing health promotion and treatment programs.*

Key words *Suicide, Childhood, Children, Suicidal behavior, Suicide risk*

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Introduction

Suicide is a serious public health problem. It affects all age groups and is caused by psychological, social, economic, biological and cultural aspects[1,3]. In childhood, while showing low statistics worldwide when compared to other age groups, this number has increased and causes a stir because it is a tragic event[4,5] that breaks with the paradigm of dreams and joys that should be part of these children's lives. It also causes problems in the country's economy, considering the reduced number of future economically active young adults.

Researchers[3,4] suggest that the limited ability of children and preteens to solve problems may increase the risk of suicide due to the lack of adaptive strategies in stress situations. In general, in this stage of transition from late childhood to early adolescence, intense internal and external changes occur, causing an impact on the emotional, physical and mental capacity[5].

An epidemiological study conducted in 101 countries between 2000 and 2009 found that 14.7% of suicides occurred in children between 10 and 14 years of age[6]. Of these, 74% died by hanging and 13% by firearm[6].

In Norway[7], a survey revealed that suicide corresponds to 61% of deaths from external causes in children aged 10-14 years. In Australia, suicide is the second cause of death (27.2%) in children aged 10-14 years[8].

In Brazil, Violence Map data organized by the Ministry of Health show that, from 2002 to 2012, the number of suicides among children and adolescents aged 10-14 years has risen by 40%[9]. This map[9] also showed that prevalence of suicide in children and adolescents in Brazil increased between 2000 and 2010 from 0.9 to 1.1 per 100,000 children and adolescents, placing Brazil in the 60th position of a total of 98 countries analyzed, which are low values when compared to other countries.

In 2004, a study conducted in the Brazilian state of Piauí found 30.9% of suicide in young people aged 10-19 years[10]. In 2010, in Alagoas, 26% of young people (10-19 years old) were hospitalized for attempted suicide at a state hospital of reference[11]. These data are worrying and alarming, especially because of the reporting constraint.

This setting has limitations and challenges with regard to suicide prevalence in children: underreporting of suicide deaths due to the difficulty or error in classifying them as such or registering them as accidental or due to undetermined causes[4,7,12]; the combination of suicide statistics in the 10-19 years age group, which includes different periods of development and events, disregarding the fact that young people commit suicide for reasons other than children and the lack of hospital notifications in these cases. In addition, suicide is a taboo, where one believes that, due to their cognitive immaturity, children do not engage in suicidal acts[4,9,13,14].

The interest in studying suicide in children under 14 years of age in Brazil is justified as follows: (1) while it is a relevant topic, it has received little attention, not only in Brazil, but worldwide; (2) there is a worrying hike in childhood suicide rates from 2.8 in 1980 to 4.1 in 2013 in Brazil[15]; (3) evidence from international studies that children are aware of the desire to die, which requires care to promote their well-being and their psychic health[4,14]; (4) understanding the factors that predispose a child to commit suicide.

From this perspective, several questions emerge. Among them, two stand out, namely: What are the factors involved in committing the suicidal act in childhood? Is there a difference in the precipitating factors of suicide risk in children for other age groups?

Somehow, the equation of these questions, through the systematization of scientific evidence produced by the research on the subject, can pave the way for the construction of a theoretical-conceptual basis that envisages the establishment of effective programs for the prevention of suicide within the scope of school and primary care.

From this perspective, we aim to analyze specific literature on suicide committed by children under 14 years of age. We hope that clarifying this theme will facilitate hypotheses or assumptions as a starting point for future interventions in suicidal behavior in childhood.

Methodology

This is an integrative review of literature that aims to capture, recognize and synthesize the production of knowledge about a subject or theme[16]. This research covers the period from 1980 to 2016 through the following methodological steps: establishing the guiding question; selecting and retrieving papers (inclusion and exclusion criteria); evaluating pre-selected studies; discussing results and submitting an integrative review[16].

With this purpose in mind, on January 15, 2017, a survey of health-related publications was

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carried out, consulting papers in PubMed and Psycinfo databases, because they are the bases that gather the highest indexing of health journals, through descriptors that sought to answer the guiding questions: What factors lead to commit the suicidal act in childhood? Is there a difference in the suicide risk precipitating factors in children for other age groups? Inclusion criteria were papers on consummated suicide with individuals aged 10-14 years. We excluded papers that: (a) were exclusively geared to ideation and attempted suicide; (b) dealt with the epidemiology of suicide in young people without distinction between children under 14 years of age and those over 15 years of age; (c) were written in languages other than Portuguese, English and Spanish; (d) were published before 1980; (e) were not located in full; (f) were annals of events, dissertations, theses and letters to the editor.

The descriptors searched were: "Risk of suicide"; "Children"; "Suicide"; "Childhood". Cross-linking the selected descriptors was done through two search strategies: in the first, keywords were cross-linked using "AND" and, in the second, using "OR".

In this search, 1,953 papers were identified in the databases. From the descriptor search in the title or abstract, only 586 studies were identified. Of these, 430 were excluded because they did not meet the inclusion criteria (Figure 1). Of the 156 remaining studies, 123 were eliminated because they were not directly related to the subject (89 were studies of ideation and suicide attempt and 34 were about suicide epidemiology of young people aged 10-19 years). In the final analysis, four papers were not found in full, resulting in 29 papers as the analytical corpus (Figure 1).

Subsequently, papers were read in full and information was extracted for the characterization of the production with regard to the year of publication, country of origin of the study, central focus on the method used and emphasis on results and conclusions.

At the stage of the analysis of publications, an adaptation of Bardin's thematic content analysis technique was performed[17]. The following steps

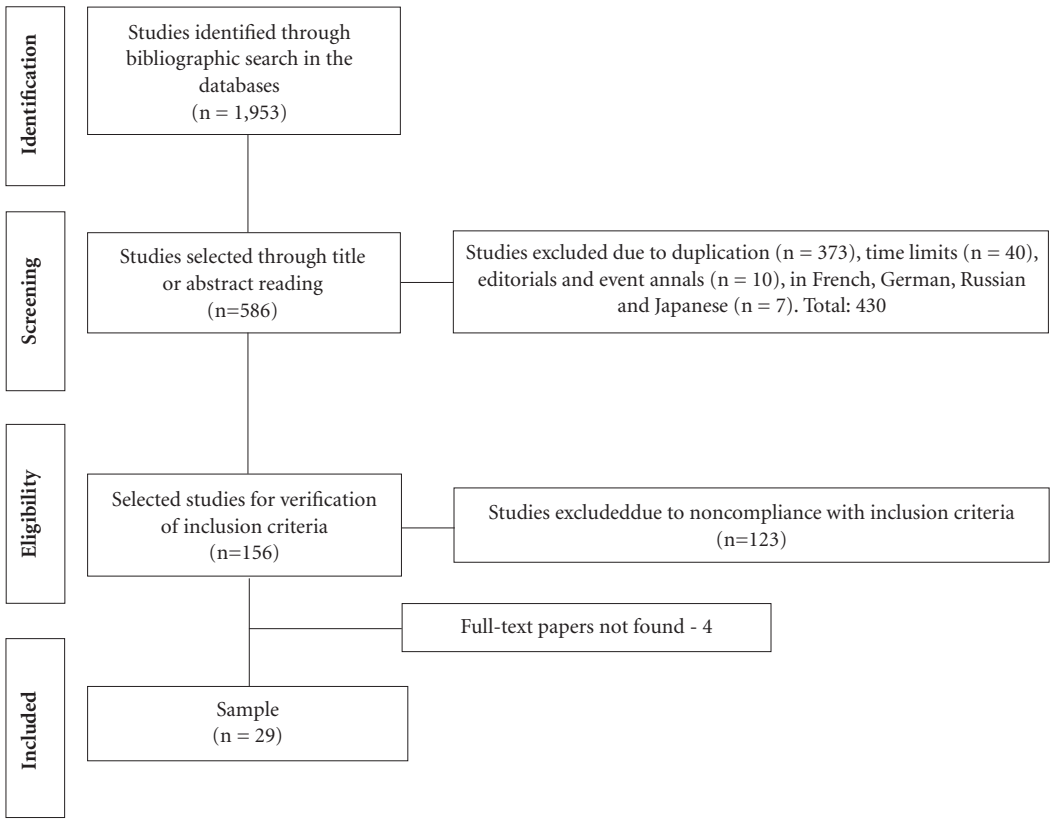

Figure 1. Flowchart of the integrative review, Recife, PE, Brazil, 2017.

were observed for study review: (a) reading each article, seeking a comprehensive understanding; (b) identifying ideas related to risk factors for suicide in children under 14 years of age and differences between precipitating factors in this age group when compared to adolescents; (c) sorting these ideas in categories that highlight singularities and peculiarities of papers on the central issue; and (d) elaborating interpretative summaries of each theme that articulates with the view of factors on the reasons that lead children to die by suicide.

Categories were: (1) Characterization of sources; (2) Literature in the period 1980-2016; (3) Challenge of sorting children's deaths due to external causes; (4) Children's suicide method; (5) Relationship between ideation, attempt and suicide in childhood; (6) Relationship between school-related factors and suicide in childhood; (7) Relationship between social factors and suicide in childhood; (8) Relationship between mental disorders and suicide in childhood.

Results and discussion

The selection with which we operate in this review and that includes the 10-14 years age group is due to scarce specific literature on suicide in children under 10 years. While there is a focus on adolescent suicide prevention in most countries, the fact that younger children are also able to kill themselves is often overlooked.

Suicide predisposing factors for children aged 10-14 years are discussed and coordinated together with literature on adolescence due to the scarce specific literature on children. However, we sought to focus the discussion on the age range bracket of this review.

Characterization of sources

We observed that, despite the increased production of knowledge on children suicide, studies set this phenomenon within the 10-19 years age group, with no specific distinction between childhood and adolescence. Thus, delimiting the focus on studies on suicide of children under 14 years of age reduced significantly this production, thus obtaining only 29 studies (Chart 1).

With respect to the year of publication, ten papers are concentrated in the 2011-2016 period. Among the countries conducting the research that originated the papers, the United States predominated with seven works. No Brazilian publications were found.

Regarding methodological designs, most (n = 25) had a retrospective approach, of which fifteen used psychological autopsy. Such an approach seeks to reconstruct the life history of people who died by suicide from multiple sources of information: family members, friends, health professionals, medical records and other important documents.

Hurdles to the production of childhood suicide studies relate to the resistance of relatives in revealing the phenomenon, even due to prejudice or because it is difficult to report such data, because the occurrence of suicide is concealed as accidental death, such as drowning or poisoning.

Literature in the period 1980-2016

As of 1980, there was only one study based on psychological autopsies, aiming at understanding the circumstances and factors precipitating suicide in children under 14 years of age and adolescents aged 15-19 years, with a focus on mental disorders[18]. In the 1990s, research expanded and saw the emergence of case-control studies, studies on prevalence and comorbidity with mental disorders and social stressors[13,19-23]. The focus on the impulsivity of the suicide act and different suicide risk factors in children under 14 years of age and adolescents aged 15-19 years are beginning to be highlighted in this period.

The 2000s were marked by the significant increase of works, which can be justified by the significant hike of consummated suicides in childhood[12,14,24-32]. They are case-control and cohort studies; international multi-center studies are developed and there is a technical rigor around the classification of deaths by suicide in children, seeking to gather and discuss aspects of bullying, depression and suicide.

In 2010, studies more specific to the population under 14 years of age emerge, emphasizing personality traits, factors associated with bullying, psychosocial stress and its psychiatric implications[7,8,33-38,40]. Schools and mental health care began to integrate forms of children suicide prevention, and the challenge of identifying the risk of suicide in this population stands out[8].

Chart 1. Characterization of studies analyzed, Recife, PE, Brazil, 2017.

Study	Year	Country	Journal	Methodology
Freuchen e Grøholt[33]	2015	Norway	Clin Child Psychol Psychiatry	Case-control psychological autopsy.
Freuchen et al.[34]	2012	Norway	Child and Adolescent Psychiatry and Mental Health	Case-control psychological autopsy.
Loh et al.[35]	2012	Singapore	Archives of Suicide Research	Psychological autopsy.
Freuchen et al.[7]	2012	Norway	Child and Adolescent Psychiatry and Mental Health	Case-control psychological autopsy.
Kolves e De Leo[6]	2015	Australia	Journal of Adolescent Health	Retrospective study.
Soole et al.[8]	2015		Arch Suicide Res	Review study.
Coskun et al.[36]	2012	Turkey and USA	Archives of Suicide Research	Cross-sectional and retrospective study.
Bella et al.[37]	2013	Argentina	Arch Argent Pediatr	Cross-sectional and retrospective study.
Kõlves e De Leo[2]	2016	Australia	Journal of Adolescent Health	Documentary study.
Dervic et al.[14]	2008	Austria	Psychiatric Clinics of North America	Review of factors associated with child suicide.
Séguin et al.[38]	2011	Canada	Journal of Psychiatry	Case-control psychological autopsy.
Windfuhr[24]	2008	England	Journal of Child Psychology and Psychiatry	Cross-sectional and retrospective study.
Crepeau-Hobson[39]	2010	USA	Archives of Suicide Research	Cross-sectional and retrospective study.
Grøholt e Ekeberg[12]	2003	Norway	Nordic Journal of Psychiatry	Retrospective study of suicide-related deaths in the period 1990-1992.
Beautrais[27]	2003	New Zealand	American Journal of Psychiatry	Case-control psychological autopsy.
Weinberger et al.[29]	2001	USA	Journal of Forensic Science	Psychological autopsy.
Beautrais[26]	2001	New Zealand	Australian and New Zealand Journal of Psychiatry	Retrospective study in the period 1989-1998.
Sourander et al.[31]	2009	Finland	Arch Gen Psychiatry	Cohort.
Klomek et al.[30]	2009	Finland	Journal of the American Academy of Child and Adolescent Psychiatry	Cohort.
Schmidt et al.[25]	2002	Germany	Journal of Forensic Science	Retrospective study in the period 1989-1998.
Ağırıtmıs et al.[28]	2004	Turkey	Forensic Science International	Retrospective study in the period 1996-2000.
Skinner e Steven[40]	2012	Canada	CMAJ	Retrospective study in period 1980-2008.
Dervic et al.[41]	2006	Austria	Eur Child Adolesc Psychiatry	Retrospective study in the period 1970-2001.
Brent et al.[21]	1999	USA	Journal of the American Academy of Child and Adolescent Psychiatry	Case-control psychological autopsy.
Brent et al.[22]	1993	USA	J Am Acad Child Adolesc Psychiatry	Case-control psychological autopsy.
Gould et al.[20]	1996	USA	Arch Gen Psychiatry	Case-control psychological autopsy.
Marttunen[23]	1991	Finland	Archives of General Psychiatry	Psychological autopsy in the years 1987 and 1988.
Pfeiffer[13]	1997		Psychiatric Clinics of North America	Review study.
Hoberman e Garfinkel[18]	1988	USA	Journal of the American Academy of Child and Adolescent Psychiatry	Retrospective study in the period 1975-1985.
Grøholt et al.[19]	1998	Norway	Journal of the American Academy of Child and Adolescent Psychiatry	Case-control retrospective study.

Challenge of sorting children's deaths due to external causes

One of the challenges to children suicide is the correct classification of deaths in this age group. In Norway, in reclassifying the deaths of children by suicide from 1990 to 1992, Grøholt and Ekeberg[12] concluded that there was a 50% reduction in suicide deaths in children. In the USA, 31.5% of the participants stated that they had no evidence to justify suicide deaths, 29% reported that death occurred due to the history of asphyxia games and 10.9% stated that children's age confirms accidental deaths[19].

Thus, Grøholt and Ekeberg[12] recommend some criteria to evaluate children's death by suicide, and they are: investigating the relevant activities in children's lives, such as the intention to express the desire to die; signs of mental distress; emotional or physical pain; stressful events or losses; despair and the means used for death and circumstances so that they would not be saved.

In addition, there is an admitted difficulty in identifying whether death by hanging was due to suicide or by accident. Thus, many children watch hanging scenes in cartoons, paintings and television programs. It should be emphasized that this method does not require specific skills[7,12,19]. Therefore, the social, psychological and psychiatric circumstances involved in the death of children should be analyzed in order to sort them correctly.

Children's suicide methods

There was a prevalence ranging from 48%-90% of deaths from suicide in childhood due to hanging, followed by 14%-22% by firearms and, to a lesser extent, 4%-7% due to poisoning, 7%-30% by precipitation and 2%-4% by drowning[4,6-9,12-14,19,21,24,26,28,35,41].

In Singapore, 90% of deaths occurred due to precipitation and 9% by hanging[35]. In Austria, in the 1990s, there were twice as much deaths from firearms compared to the 1970s and 80s[21]. In England, no deaths were recorded for suicides caused by firearms[24]. This study causes a stir to alcohol poisoning and antidepressants found in 9% of cases[24]. In Turkey, USA and England, a significant proportion of 13-30% of deaths from poisoning[24,36] was found.

Relationship between ideation, attempt and suicide in childhood

Children voice less desire to die compared to adolescents. A study in Norway found that 68% of the adolescents voiced their desire to die, and only 29% of the children had verbally expressed suicidal ideation or written a note denoting depleted strengths to live[33,34]. Another study in Norway indicated that 40.9% had given verbal warnings about suicide, expressing their suicidal behavior to colleagues and teachers[33].

Despite the lack of concrete data on suicidal ideation in childhood, since this topic is not being investigated properly globally, researchers found change in the behavior and some sets of signals. In the months leading up to suicide, children became increasingly quieter, avoided leaving home, and they did not attend school[7,8,12-14] in the days preceding suicide.

Children tend to express their desire to die in the week preceding the act[33]. A study of suicide notes left by children under 14 years of age reported that 61% wrote notes in the days and months preceding suicide, suggesting the challenge of early identification of suicidal behavior in this age group[25].

Freuchen and Grøholt[33] argue that suicide notes have highlighted the ambivalence between the search for strength to continue living and the decision to end their lives. It is noteworthy that three notes were written at school, as an activity of the discipline and of these, two were corrected by teachers for grammar and text structure. Despite notes explicitly expressing the wish to die, the school has not taken any steps to contact parents or refer children for psychological evaluation.

In this line of reasoning, the interest in suicide is a sign that should not be ignored in children. Direct or indirect verbal manifestations that refer to "death thoughts", behavior changes and curiosity about death should be taken seriously and require immediate attention[8,14,18,27,33,41].

In the case of verbal manifestation, children in the final phase of childhood and early adolescence can go directly to the subject, confiding to their friends their wish to die or just insinuating and commenting on their death wish with teachers and, less frequently, with their families.

One of the challenges to prevention of suicide in childhood is the early detection of suicidal ideation. The change in the children's behavior should not go unnoticed or be confused with a stage of difficult or withdrawn temperament[42]. In

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addition, it is necessary to overcome the idea that children have no cognitive ability to take their own life.

More concrete data on attempted suicide report that 13.1% of children had previously attempted suicide[7,19,23,33,35,38]. When compared to children's accidental deaths, 23% had attempted the act in the year preceding death by suicide[27].

Attempt is the most significant risk factor for suicide. It is more frequent in female children[30]. This data is also persistent in other age groups. Scholars warn that having a firearm at home and leaving home and the child alone should be considered true alerts to relatives[4,6,7,25,40]. In addition, suicide attempts in childhood are one of the most significant risk factors for the repetition of the act in other stages of life[13].

The exposure of children to suicidal behavior of relatives and close people is also considered. Soole[8] and Dervic[14] show that children who had relatives with depression or whose parent or other relative made and succeeded in the suicide attempt were significantly more likely to attempt suicide. Freuchen and Grøholt[33] found that 43% of children who died of suicide had been exposed to the phenomenon in the community or in the family.

Thus, one can observe that suicide is a complex event that brings stress to the family and causes disorganization of its members, especially among children who live closer to their parents and tend to be more visibly affected.

These results indicate that each child's experiences with signs of depression, death, and suicide, as well as what he/she is told about are crucial to his/her understanding of suicide. Research conducted by Mishara[43] found that children aged 5-11 years have a detailed understanding about suicide. Children aged 8-9 years were able to elaborate concepts of life and death, although they are still somewhat immature[43]. Therefore, considering that children do not understand the concept of suicide hinders the detection of suicide risk.

Relationship between cognitive process and suicide in children

A theoretical study on suicide in childhood narrates that children's cognitive development should not be underestimated, since children have shown difficulty in judging and managing stressful circumstances due to the immaturity of the frontal and back cortex[13,14]. Thus, neurobehavioral modifications triggered at puberty, such as impulses and emotional changes may be related to suicide in this age group[14].

It is noteworthy that impulsivity, also derived from cerebral immaturity, is a marked feature of this life cycle and aggravates the fact that it is closely related to the risk of suicide attempts.

These changes may not occur concomitantly with cognitive processes, such as cognitive development, maturation of reflexive and critical capacity and of judgment. Thus, cognitive and affective components of behavior involve neurobiological systems and are among the last brain areas to mature[14].

A study in Norway[34] found no difference between development and cognitive maturation among children under 13 years of age and adolescents aged 15-20 years. In this line of thought, new research should be conducted to further analyze the relationship between cognitive immaturity and suicide in children under 14 years of age.

Relationship between school-related factors and suicide in childhood

School problems are an important precipitant factor to childhood suicide. School-related problems are understood as bullying, school dropout, disciplinary crises and hindered social interaction.

Countless studies have found that almost half of the children have recently had disciplinary problems at school[4,13,19,20,24-25,27,29-31,34,35]. Among the disciplinary problems, 25.3% failed in school grades, 18.3% dropped out of school and 16.3% were suspended from school[24]. School absenteeism is an event that is linked to social isolation and suicidal behavior[27,30,38]. Absence from school can be related to shame, guilt and fear in dealing with school problems expressed by disciplinary problems, low grades, difficulty in relating affectively with peers and peer violence.

Children who died of suicide had higher school performance problems and academic difficulties. However, it is not known whether the drop in school performance is mediated by stressful events in life or by disorders of attention, learning, conduct, anxiety and depression. It is known that depressive feelings can influence school performance insofar as children cannot believe in their ability to overcome adversity[42].

The Suicide Prevention Handbook for teachers and educators emphasizes that any sudden or dramatic change in children's or adolescents' performance, attention or behavior should be taken seriously[42].

Another current serious problem that affects children in the school environment is bullying. Bullying refers to violent behavior manifested by repeated intimidation and abuse of schoolchildren over time with the intention of humiliating and abusing a defenseless victim[44].

In Norway, 29% of children who died of suicide had been victims of bullying[30]. A cohort study found a significant association between bullying and suicidal behavior. Victims of bullying and abuse by their colleagues were significantly more likely to have an impact on mental health and had low self-esteem, social isolation and depressive symptoms[20].

Regarding gender, male offenders and victims were more likely to commit suicide than those who had never been involved in bullying, and girls who were victims of bullying were often more likely to commit suicide[20].

A systematic review of bullying and suicide found no significant association between these two events[44]. In contrast to this, studies have reported the role of bullying in mental suffering manifested by loneliness, social isolation, difficulty in relating with peers, child depression and suicidal behavior[8,13,14,21,23,30-31,33,34].

In a cross-sectional study with 1,491 students in the USA, Bauman[44] found that depression is a significant mediator between bullying and traditional victimization and suicide attempts, regardless of gender. Among those who had depression, 42% of the girls were more likely to attempt suicide while this risk for boys was 60%. This same author points out that bullying is an attempt to publicly humiliate the victim, in order to harm their friendships and social status, making the victim feel melancholy, anguished and without social support. There is also an association between dissatisfaction with body image and the odds of being more victimized or practicing bullying[35].

The psychological fragility of these children in accepting / recognizing their own physical characteristics and the intense changes that occur in this life stage, as well as in dealing with the difference of the other reinforce the need for parents and teachers to investigate and recognize the mental suffering of these children to refer them to psychological and psychiatric treatment. In addition, there is an urgent need to create preventive strategies that work on children's personal and social skills to keep a healthy school environment[5,35].

Relationship between social factors and suicide in childhood

Several investigations[4,13,18,19,24,26-28,30,35,40] evidenced significant differences between social factors that trigger suicide among children and adolescents. Young people who attempt or commit suicide are driven by sentimental issues and involvement with alcohol and other drugs. For children under 14 years of age, such factors are mainly: family conflicts with dynamics permeated by tension, rigidity and lack of dialogue; parents' separation or divorce; and a sexual abuse background.

Studies from psychological autopsies have reported intense family conflicts in a context of home and care transition between parents, as well as change, suspension or school problems. Separation of parents was also reported, however, the association between parental divorce and suicide was mediated by psychosocial factors[7,8,22,30]. Therefore, such social situations led to discussions and resulted in stressful events that culminated in the suicide act as the only solution to these problems.

Several studies[13,18,19,22,24,38] have shown the association between the risk of suicide and the lack of dialogue between parents, especially the lack of mother communication[28]. Indeed, most children were exposed to parental neglect and had inadequate social support to deal with hardships[40]. Parent-child conflicts are more common in children than in adolescents[8].

The lack of or hurdles to effective parent-child communication reflects that children's suicidal behavior remains silent. Children who die by suicide are alone, isolated and helpless[24,42].

Additionally, physical, sexual and emotional abuse was strongly associated with a higher risk of suicide in childhood[8,18-20,22-23,26-27,33]. Violence evidences a hostile environment and adversities to which children have been exposed, making them feel a burden, resulting in intense psychic suffering.

A study by Buffraerts[45] in 21 countries found that childhood adversities were more associated with attempted suicide in this stage of life than in adolescence. Children aged 4-13 years who were sexually abused were ten times more likely to attempt suicide. This risk decreased to six times in adolescents aged 14-19 years.

Pffeifer[13] describes that exposure to stressful situations in childhood can heighten feel-

ings of hopelessness, implying in the perception that these circumstances are very unlikely to be solved. Along with the immature skills to deal with children's problems is the lack of adequate social support, causing their silent suffering, isolation and lack of protection.

Neurobiological studies shown by Dervic et al.[14] also found serotonin deregulation in children who were abused and neglected by their parents. Thus, future neurobiological investigations may increase interaction between serotonin serum changes, stressful life events and suicidal behavior in children.

Relationship between mental disorders and suicide in childhood

Several studies show that mental disorders are strongly related to suicide in children. Half of the children had a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD), one-third had anti-social personality disorder, depression and, to a lesser extent, alcohol problems[4,7,12,22-25,29,33,35]. In contrast, a high proportion of mental disorders compared to children[8] is found in other age groups.

Regarding follow-up of mental health services, only a small portion received psychiatric treatment and a minority was in contact with mental health services in the year before suicide. Some 85% were not in psychiatric treatment in the month prior to suicide[22].

Beautrais[27] points out that female children had more contact with health services than male. Freuchen et al.[34] was the only study to point out that 17% of children who died of suicide received some kind of psychological and psychiatric service at school. The risk of suicide is greater in children with some mental disorder than in those without a psychiatric diagnosis.

Various researchers have shown an association between personality traits and suicide risk[20,27-29,39]. Hoberman and Garfinkel[18] describes that children were more likely to be angry, nervous, anxious and impulsive before the fatal act.

A recent study conducted by Freuchen and Grøholt[33] showed that children who died by suicide were more sensitive, concerned and impulsive compared to children who died from accidental deaths. A systematic review pointed out that being extremely intelligent, distrustful, angry, sensitive to criticism and social isolation were hallmarks of children who died of suicide[8].

Differently from other age groups, impulsivity was associated with the risk of suicide in children[8,13,14,22]. In childhood, actions are often hasty, thus, a suicide attempt is found to be most frequent after stressful events.

Thus, we understand that, while not all the young people with psychiatric disorders think about suicide, those who had a suicidal behavior mostly had this predisposing factor.

Final considerations

Regarding the collection studied, the following are highlighted: (1) Predisposing factors for suicide in childhood are school problems, among which bullying and poor school performance stand out; background of physical and sexual violence and family conflicts, where tensions and rigid relationships hinder communication and a harmonious parent-child relationship, as well as the death of a close relative or person by suicide. Therefore, it is of utmost importance to talk to children about suicide; (2) Half of the children had some form of mental disorder, specifically Attention Deficit Hyperactivity Disorder (ADHD), antisocial personality disorder, and depression. Thus, the intrinsic relationship between mental disorders and suicide in children is recognized. (3) Despite cognitive immaturity, children have a capacity for and understanding of the suicidal act; (4) Children give less verbal clues as to their desire to die and are more impulsive in attempting suicide; (5) In the months preceding suicide, behavior and attitude change, children show lack of interest in pleasurable activities, do not attend school and fall into social isolation. (6) Children who died of suicide did not have stress coping strategies.

Among the limitations of this paper are the bibliography studied, which was restricted to databases indicated in the review method; scarce Brazilian literature on suicide in children under 10 years of age, which prevents data generalization, since the information shown relates to the reality of other societies and other age groups.

The literature highlights the noticeable existence of this phenomenon, often unknown in the studied age range, and that it is possible to prevent suicide in childhood. Therefore, recognizing psychic distress and suicidal behavior in childhood is extremely necessary for these children to have adequate psychiatric treatment. Protocols should be developed for the early recognition of suicidal behavior. Health professionals and teachers should be empowered to be able to help children with suicide risk predisposing signs.

Collaborations

GS Sousa, MSP Santos, ATP Silva, JAG Perrelli and EB Sougey participated equally in all the stages of the study.

Colaboradores

GS Sousa, MSP Santos, ATP Silva, JGA Perrelli e EB Sougey participaram igualmente de todas as etapas do estudo.

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