

Relationship between suicidal behavior and eating disorders: a systematic review*

Relação entre comportamento suicida e transtornos alimentares: uma revisão sistematizada

Relación entre comportamiento suicida y trastornos alimentarios: una revisión sistematizada

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ABSTRACT

Objective: This paper offers a systematic review of the literature on eating disorders and the relationship with suicidal behavior. **Methods:** Searches were performed in the Medline, Lilacs, Adolec and Pubmed databases for articles published between 2003 and 2014. **Results:** Anorexia nervosa was the most often cited eating disorder in the articles selected. In cases of bulimia nervosa, suicide attempts and self-aggression were more frequent among those who use multiple compensation behaviors. Behavior disorders, emotional disorders and chemical dependency were described as risk factors in all publications. **Conclusion:** Despite the small number of studies performing an in-depth investigation into the relationship between eating disorder and suicidal behavior, the concomitant presence of these conditions places the health of patients at greater risk.

Descriptors: Suicide, Attempted Suicide, Eating disorders.

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RESUMO

Objetivo: Realizar uma revisão sistematizada da literatura acerca dos transtornos alimentares e sua relação com o comportamento suicida, analisando o conteúdo das publicações. **Métodos:** Foi Realizada uma busca sistematizada em bases de dados eletrônicas (Medline, Lilacs, Adolec e Pubmed), com foco em artigos publicados entre 2003 e 2014. **Resultados:** Dentre os estudos selecionados, a anorexia nervosa foi o distúrbio alimentar mais referido pelas publicações. No caso da bulimia nervosa, as taxas de tentativas de suicídio e/ou comportamentos auto agressivos são maiores entre indivíduos que utilizam uma compensação múltipla de comportamentos purgativos. Sobre os fatores de risco associados, evidenciou-se que os transtornos de comportamento, os transtornos emocionais e a dependência química apresentam-se descritos em todas as publicações. **Conclusão:** Ainda são escassos os trabalhos que investigam profundamente a relação entre transtornos alimentares e o comportamento suicida, porém é possível verificar que a presença concomitante pode comprometer ainda mais a saúde do paciente.

Descritores: Suicídio, Tentativa de Suicídio, Transtornos Alimentares.

RESUMEN

Objetivo: Realizar una revisión sistematizada de la literatura sobre trastornos alimentarios y su relación con comportamiento suicida mediante el análisis del contenido de las publicaciones virtuales. **Método:** Realizar una búsqueda en bases de datos electrónicas (Medline, Liacs, Adolec y Pubmed), de artículos publicados del año 2003 al 2014. **Resultados:** En todos los estudios la anorexia nerviosa fue el trastorno alimentario más presente. Respecto de la bulimia nerviosa, las tasas de tentativas de suicidio y/o comportamientos autoagresivos son más elevadas entre individuos que recurren a varias formas de compensación mediante múltiples tipos de actitudes purgativas. Acerca de factores de riesgo asociados, los trastornos comportamentales, los emocionales y la dependencia química aparecen en todas las publicaciones. **Conclusión:** Todavía son escasos los trabajos que investigan en profundidad la relación entre trastornos alimentarios y comportamiento suicida. Se puede detectar empero que la presencia concomitante de ambas situaciones puede comprometer aun más la salud del paciente.

Descriptor: Suicidio, Tentativa de Suicidio, Trastornos Alimentarios.

INTRODUCTION

Eating disorders - anorexia and bulimia - are severe psychiatric disorders with high mortality rates, disability, physical and psychological morbidity with reduced quality of life.¹ Despite its low prevalence in the general population, it requires a huge attention in public health policies, due to the fact that people hide the disease and avoid professional help, which causes an increase in mortality rates and disease aggravation.²

These disorders are among the psychiatric disorders most often diagnosed in teenagers. During puberty, neuroendocrine changes influence the behavioral and emotional development.³ Moreover, at this stage, the individual shows itself more vulnerable to cultural pressures and has in his mind an idealized body. The more their body is far from the ideal, the greater is the possibility of conflict, which can trigger the frames of eating disorders.⁴ In many cases, may also be associated

with other psychopathological disorders such as mood disorders and anxiety.⁵

Anorexia and bulimia are the main subtypes of eating disorders.⁶ Anorexia nervosa is characterized by refusal to maintain normal weight because the person has a misperception of its own body measures; while bulimia nervosa is defined by episodes of compulsive eating followed by various forms of compensatory behavior.⁷ In both disorders, self-evaluation is greatly influenced by the weight and shape perception.⁵

In anorexia nervosa, the mortality rates are often used as indicators of disease severity. In a meta-analysis on mortality carried out in the 90s, it was identified as a psychiatric disorder with the highest mortality rate.⁷

In bulimia nervosa, population studies on mortality are still insufficient to provide an adequate statistical analysis. Recent data suggest that suicide rates have increased over time⁸ and suicide attempt is 25 to 35% more frequent in individuals with bulimia nervosa than anorexia nervosa.⁹⁻¹¹

Suicidal behavior has been identified as highly associated with eating disorders factor. For teenagers, some studies showed that, among other factors, the presence of eating disorders can be a risk factor for suicide equivalently to other psychiatric disorders, such as depression and conduct disorder.^{7,12}

Given this context, it is possible to realize the importance of analyzing the studies of suicidality related to eating disorders. Thus, this study proposes a systematic review of the literature on the subject.

METHODS

This study was developed through the search in periodicals held in electronic databases: Medical Literature Analysis and Retrieval System Online (MEDLINE), Latin American and Caribbean Literature in Health Sciences (LILACS), Virtual Library in Adolescents Health (ADOLEC) and (PUBMED) and reference lists of identified articles.

The selection of the descriptors used in the review process was conducted in consultation with descriptors in Health Sciences of BIREME (MeSH). In the search, the following descriptors in Portuguese and English were considered: "suicide," "suicide attempt," "suicidal ideation," "eating disorders," "feeding behavior," "anorexia nervosa," "bulimia nervosa," "risk factors," "adolescent," "adolescence" and "students".

Were used the logical operators "AND", "OR" and "AND NOT" for a combination of descriptors and terms used for searching for publications.

Then, the articles that met the following inclusion criteria were identified: (a) the sample should include teenagers, even covering other age groups; (B) studies describing the diagnosis of anorexia and / or bulimia

nervosa; (C) studies published in the last eleven years; (D) original articles on research with human beings; (E) articles published in Portuguese, English, and Spanish. All steps for review are identified in Figure 1.

RESULTS AND DISCUSSION

Through the described search procedure, were initially identified 258 potentially eligible publications for inclusion in this study (MEDLINE = 70; LILACS = 90; ADOLEC = 41; PUBMED = 57).

After the first analysis, evaluation of titles and abstracts, 221 articles were excluded for not meeting the 5 proposed inclusion criteria. In the second phase, the 37 selected articles were analyzed in full. In this step, the reading was performed independently by three researchers for the inclusion criteria application. From this analysis, 24 articles were excluded, and 3 showed no original data; 10 did not describe the diagnosis of anorexia and bulimia nervosa; 2 used qualitative methods to collect and analyze data; 9 did not have the frequency and prevalence of suicidal behavior. Finally, the review was based on 13 articles.

The composition of the samples varied as the age of respondents, being included in the studies adolescents and adults. It is observed that approximately 73% of the publications analyzed adolescent and adult patients simultaneously.

Regarding suicidal behavior, suicide attempt was referenced in 77% of publications, approximately. The results

related to the frequency or prevalence of suicidal ideation and suicide attempt ranged from 5 to 65.2% and from 3.5 to 35.6%, respectively, mainly related to suicidal ideation data.

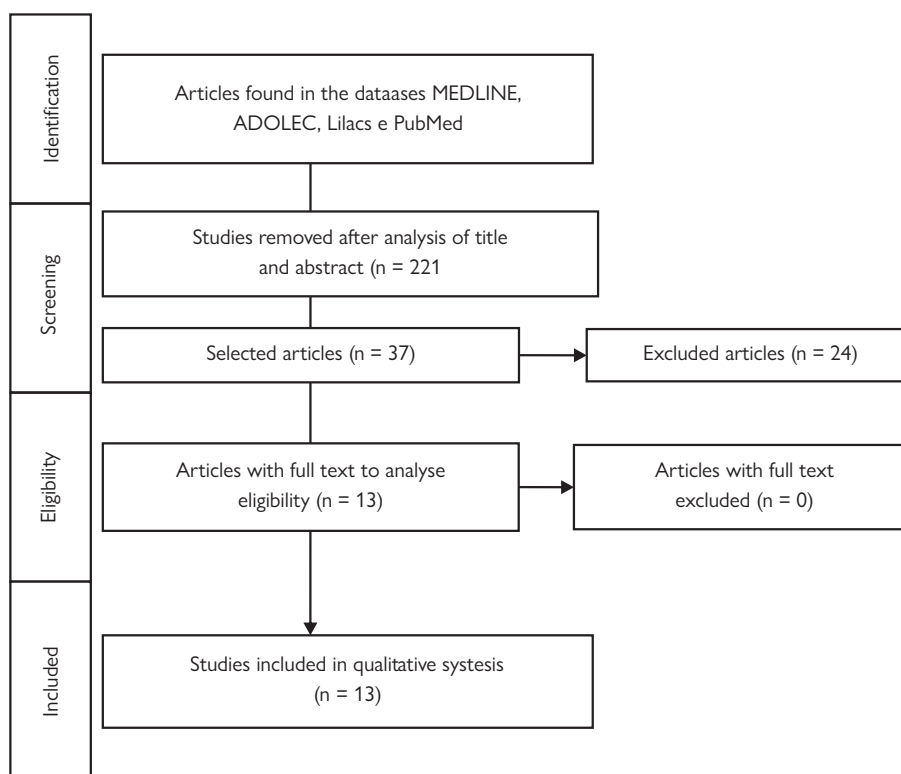
About eating disorders, anorexia nervosa was the eating disorder that was more referred in publications with approximately 69%. Among the risk factors identified and associated with suicidal behavior in individuals with eating disorders, it is highlighted the disorders of emotional origin followed by chemical dependency. Depression (84%) and drugs use / abuse (30%), mainly alcohol and drugs were the most evident in the publications.

The aim of this study was to evaluate, through the existing literature, the relationship between eating disorders and suicidal behavior. Our results reflect the epidemiological knowledge developed over the past 11 years. Through this analysis, we observed a significant link between eating disorders and suicidal behavior, and the lack of studies on this subject.

Suicide is a major cause of morbidity and mortality among adolescents and young adults since this period is characterized by an increased sensitivity, including risk-taking and reckless behaviors.²⁵

Recent observations suggest that the propensity to take risks and dangerous behaviors in adolescence may be explained by the immaturity of cortical neuro systems, particularly the prefrontal cortex, that is not able to modulate the perception and assessment of risk and reward, leading to major changes in social and emotional processing in the brain.²⁶ From this perspective, adolescents are at risk

Figure 1 – Flowcharts of articles selection process



for emotional and behavioral disorders, including eating disorders.²⁷⁻²⁹

The results of this study show that anorexia nervosa is the most studied eating disorder. This is probably due to the fact that most of these studies were conducted in inpatient or ambulatory populations since this class of patients are often hospitalized and seeks professional help in more severe stages.³⁰

The studies with patients with bulimia nervosa accounted for 45% of the analyzed articles, but the number of publications focused on the adolescent population is still limited. The prevalence of studies with adults may be explained by the fact that bulimia nervosa starts in late adolescence and early adulthood. Treatment is usually sought in adulthood because adolescents with bulimia nervosa hide the disease and avoid professional help. Another hypothesis is based on the fact that approximately 70% of young patients have atypical or partial forms of eating disorders, delaying diagnosis and treatment.³¹⁻³⁴

There was also a predominance of females, common to the both types of eating disorders. This result has already been widely reported and may be due to the influence of our society in the feminine ideal beauty dictated by thinness, especially among adolescents.^{14-15,18,35} These women, unsatisfied with their body image, usually adopt abnormal eating behaviors and inadequate weight control practices, such as abuse of diuretics, laxatives, vomiting inductors, conducting strenuous physical activity, body dissatisfaction and others.³⁶ The body dissatisfaction is also correlated with the increase in suicide risk, since it can lead to low self-esteem, depression and anxiety, which enhances depressive symptoms and further increases the risk of suicidal behavior.^{15,37}

Considering the frequency and prevalence data, these varied mainly in relation to the data of suicidal ideation. Studies showed that between 7 and 40% of adolescents in the general population have or had suicidal ideation.³⁸⁻⁴¹ Moreover, the suicide prevention strategies should focus on suicidal ideation,⁴² since this has been seen as an important predictor of suicide attempt, and can be considered as the first step to this attitude to be finalized.⁴³⁻⁴⁴

The suicide attempt was referenced in most publications.^{11,14-20,22} In general, suicide attempt rates are higher in patients with bulimia nervosa, and even higher in cases where patients use a multiple compensation purging behaviors.^{14,37} This can be explained by the impulsive characteristic of these people.⁴⁵ It is proved that food intake in bulimia nervosa increases the release of dopamine in the neural circuits of reward, which stimulates impulsivity these cases.⁴⁶⁻⁴⁷

However, in anorexia nervosa suicide rates are high, and it is believed that 20 to 40% of deaths in anorexia nervosa are results of suicide and that patients

with anorexia nervosa are 23 times more susceptible to suicide risk than the population in general.^{7,14} One possible explanation is that people with anorexia nervosa are physically more impaired than those with bulimia nervosa, which make them more prone to death in a suicide attempt. Another possibility is the fact that patients with anorexia nervosa can make more severe and lethal attempts than those with bulimia nervosa, due to underlying personality traits or comorbidities.⁸

The associated factors that stood out were the disorders with emotional origin and chemical dependency; and depression and drugs use / abuse (alcohol and drugs) most evidenced in publications.^{18-19,24} Depression is regarded as a central feature of eating disorders; may affect 25-52% of people with anorexia and bulimia nervosa.⁴⁸⁻⁵⁰ The serotonergic functioning of people with depression and people with eating disorders are similar; dysfunction in serotonin transmission, especially among underweight individuals with anorexia nervosa, and individuals with bulimia nervosa with high compulsion,⁵¹ in others words, patients with serious eating disorders are more depressed.⁵²

Regarding the use / abuse of psychoactive substances (alcohol and drugs), it has raised concerns in health professionals, since there is a significant association between the use of these substances with eating disorders and suicidal behavior.^{14,53} It is evidenced that the use of this type of substance potentiates impulsive behavior, as these individuals have cognitive deficits in the field of impulsivity.⁵⁴

A critical point, identified by this review, is the fact that only 4 publications restricted the sample to adolescents,^{13,20,23-24} proposing strategies within the research of eating disorders in adolescence. This shortage of studies has a negative impact in understanding the disease in its early stages and the construction of optimal treatment protocols during this phase.

This study had some limitations. One concerns the exclusion of studies entered in the not indexed database, as well as in theses and books. During research, other possible descriptors have been identified but may be incorporated into future revisions. The number of found articles (n = 13) is still small, but we believe it is a significant number, the theme is relevant and that there is a growing interest in it.

Despite the limitations, this study was important to understand the remaining gaps in research and clinical practice. The investigation of suicidal behavior is important during the anamnesis of patients with eating disorders since there is an increased risk for suicide in these cases when compared to the population in general.^{13,23} Regarding the research, it is possible to notice the absence of population studies in the earliest stages of life, and future studies that fill this gap may contribute to building more efficient public prevention policies.

CONCLUSION

After reading and analyzing the reported literature, it was observed that several studies have shown a significant relationship between the symptoms of eating disorders and suicidal behavior. However, further research should be carried out, especially with adolescents, to understand the associated comorbidities, which aims to contribute both to prevention and for the development of treatment strategies for patients with eating disorders and suicidal behavior.

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