

The Influence of Mothers on the Development of Their Daughter's Eating Disorders: An Integrative Review

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ABSTRACT

Background: Eating disorders (ED) are characterized by changes in eating behavior, whose aetiology is multifactorial with an emphasis on family relations, especially in the mother-daughter relationship. **Objective:** To analyse the national and international scientific literature about the influence of mothers on the development of their daughter's ED. **Methods:** Integrative review based on the search of publications from 2012 to 2019 through PubMed, LILACS and SciELO electronic databases. **Results:** It was found 181 articles, from which 26 were selected (21 in English, four in Portuguese and one in French) to comprise the research *corpus*. In addition, 155 were removed from the review due to the exclusion criteria, which included narrative review articles, theses, dissertations, monographs, editorial letters and responses to the editor. **Discussion:** The analyzed articles offer evidence that the type of influence exercised by the mother depends on her personality profile, the mother's eating behaviour and body attitudes, the bond between mother and daughter and the type of communication that is established between the dyad. **Conclusion:** Health promotion actions in the population are necessary to prevent ED. In addition, interventions for families, and especially for mothers, are recommended, in order to favour more effective therapeutic and prognostic results.

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Introduction

Eating disorders (ED) are defined as a persistent disturbance in eating habits or eating-related behavior, which results in altered consumption or absorption of food and that significantly compromises physical health or psychosocial functioning. The aetiology of ED is multifactorial, including biological, psychological, social and cultural factors [1].

Family dynamics is also one of the factors involved in the onset of ED symptoms [2]. The literature has increasingly emphasized the need to develop studies aimed at understanding the dynamics of family relationships of people diagnosed with ED [3-4]. Such studies should be based on the clinical observation of dysfunctional relationship patterns in these families [4]. Relationships in these families take place on a false or fragile basis, with a predominance of problematic bonds, conflicts, frequent discussions, triangulation, discomfort and a negative relationship with food [5]. In addition,

emotionally distant and non-affectionate relationships with the father are also part of the family dynamics in ED [5].

However, considering the family relationship dynamics as part of the predisposing factors for these conditions does not aim to blame family members for the occurrence of the disorder [6]. On the contrary, researches involving family members seek to investigate how their interactions can contribute to the ED maintenance so that the health team can plan interventions, which position family members as allies in the treatment.

In the context of ED, the mother-daughter relationship is determined by the predominance of a fusional and symbiotic relationship, and by the presence of insecure attachment and high level of conflict [7]. The fusional relationship with the maternal figure ends up also becoming conflictive, as it implies the perpetuation of an extreme mutual emotional dependence pattern. This system leads the members of the dyad to experience difficulties in the process of differentiation and individuation, which intensify

in the adolescence. As a consequence of these vicissitudes, there is a certain ambivalence aroused by the fusional experiences, since they refer to the love between mother and daughter maintained at an immature and regressive level but also to the unconscious desire of both to maintain a relationship of proximity as a defensive strategy for the repression of hate [8]. In this relational dynamic, hatred stems from the fact that the daughter's desire for individuation is continually frustrated by the numerous and repeated unsuccessful attempts to achieve separation from the maternal figure [8].

Not only in female adolescents, but also in boys, it is observed that the children's perception of maternal behaviors plays an important role in the development of symptoms of restrained eating and body dissatisfaction. Especially school children may be more vulnerable to possible maternal influences [9]. By the way, the psychological profile of patients with anorexia nervosa (AN) and bulimia nervosa (BN) reveals that the relationship with parental figures, especially with mothers, is experienced in an ambivalent way, having oscillations between extreme dependence and autonomy. The feelings, both of hate and love, are experienced in an intense way, triggering explosive attitudes [10].

The mother is the first model for the daughter in relation to the concepts of weight, body shape and body image [11]. In this context, Cooley *et al.* [12] researched the role of dietary attitudes and related behaviours of mothers that could serve as a parameter for your daughters. The results pointed out that dietary symptoms and body dissatisfaction in mothers could be a possible effect of the maternal model for their daughters. Usually, mothers are very present since the childhood of their children and can be great allies in the treatment of their daughters with ED. Through the knowledge of eating habits, nutritional assessments and questionnaires with the patients' mothers, it is possible to find results that show the real influence in the development of the daughters' ED, thus seeking other forms of treatment for them, involving mainly the maternal figure [13].

The mother-daughter relationship shows an association between mothers' eating behavior with weight control strategies, restricted feeding, their body dissatisfaction and preference for thinness. Moreover, an association was observed between maternal criticism related to the daughter's body, as well as to the encouragement of the daughters' diet and body dissatisfaction, eating problems, weight loss attempts, weight control behavior and binge eating [14].

Given the importance of this dyad in the aetiology of ED, further studies are needed to expand the knowledge on this topic. In this context, the objective of this review was to analyze the national and international scientific literature about the influence of mothers on the development of their daughter's ED.

Methods

For an integrative review of the literature, it is used an analysis of concepts, review of theories or evidence and synthesis of knowledge on a given subject. That allows the identification of gaps, which need

to be filled with new studies, besides being quite plausible in the search for evidence for the clinical practice of health professionals [15-16]. This methodological strategy consists of the following steps: 1) The selection of the topic for review and identification of the question to research; 2) Establishment of inclusion and exclusion criteria for sample selection; 3) Choice of research papers; 4) Organization of data; 5) Analysis of the reviewed studies; 6) Interpretation of results; and 7) Presentation of the review [17].

For the formulation of the question, it was used the PICO strategy. According to Nobre and Jatene [18], this strategy is a method to elaborate research questions, where P (problem or population) = eating disorders; I (intervention or indicator) = the available evidence about ED; C (comparison or control) = does not apply for IR (integrative review) because no comparison is made; O (outcomes, outcome) = the main findings regarding ED.

Based on this strategy, the elaborated research question was: "What is the influence of mothers on the development of their daughters' ED?" Three databases were used in order to search for publications: PubMed, LILACS (Latin American and Caribbean Literature on Health Sciences Information) and the SciELO Virtual Library. Data collection was conducted through online research and Medical Subject Headings (MeSH) descriptors and Boolean operators "OR"/ "AND" were used for the search performed in all the three databases, as presented in Table 1.

As inclusion criteria, the selected research papers should be available in full-text format in Portuguese, English, Spanish and French; address the subject of ED and mother-daughter relationship, and also be published between 2012 and 2019 in indexed journals in the selected databases. It was considered as exclusion criteria: narrative review papers, theses, dissertations, monographs, letters, editorials and responses to editors. Figure 1 shows the distribution of research papers found in each database.

During the refining process, research articles indexed in scientific journals of high editorial standard and greater impact were listed based on the critical evaluation of the methodological quality of their studies. The evidence quality from each study was assessed through the analysis of its methodological robustness. According to the Agency for Healthcare Research and Quality (AHRQ), evidence can be categorized into six levels: The level of evidence (LE) 1 corresponds to the meta-analysis of multiple controlled studies; LE 2 refers to individual studies with an experimental design; LE 3 covers research with a quasi-experimental design, such as studies without randomization with a single pre- and post-test, longitudinal or case-control group; LE 4 characterizes non-experimental studies, such as descriptive correlational and qualitative research, or case studies; LE 5 corresponds to case reports or program evaluations, and lastly, LE 6 applies to the opinions of experts or authorities respected in the area, including information not supported by research [18-20].

The data extracted from the selected articles were organized into thematic categories, according to the methodological steps recommended by Braun and Clarke [20], such as: (1) become

Table 1: Data search strategy used for the integrative review and analyzed electronic databases.

Databases	Search Strategy
PubMed	("Feeding and Eating Disorders"[Mesh] OR "Eating Disorders" OR bulimia OR anorexia) AND (mother AND daughter) AND ("Eating Disorders" AND (mother AND daughter))
SciELO and LILACS	("Transtornos Alimentares" OR "Transtorno Alimentar" OR "Transtornos de Alimentação" OR "Transtornos da Alimentação" OR "Eating Disorders" OR "Eating Disorder" OR "Transtornos de Alimentación" OR anorexia OR bulimia) AND (mae\$ OR madre\$ OR mother\$) AND (filha\$ OR daughter\$ OR hija\$)

familiar with the data; (2) generate initial codes; (3) look for topics; (4) review the topics; (5) define and name the topics; and lastly (6) produce the final report. Thus, investigating the contents of the reviewed studies, which allowed measuring the advance of knowledge in the area, in order to add new knowledge about the studied subject.

Results

Firstly, 181 articles were identified and those that did not correspond with the topic were excluded (N = 116). Then, 10 articles were excluded because they were duplicated. From the remaining 65

articles, after reading their abstracts, those relevant to the project were separated for a full reading.

Table 2 outlines the selected study's findings.

From the 26 selected articles, 21 were published in English, four in Portuguese and one in French. Regarding the publication period, it was observed that 2012, 2015, 2016 and 2018 were the years with the largest number of articles published, with four, four, five and six research papers, respectively.

After the articles' full reading, they were grouped into three different categories: 1- The family relationship and the mother-daughter bond; 2- Eating behavior and body image; and 3- Messages, dialogues and other types of communication.

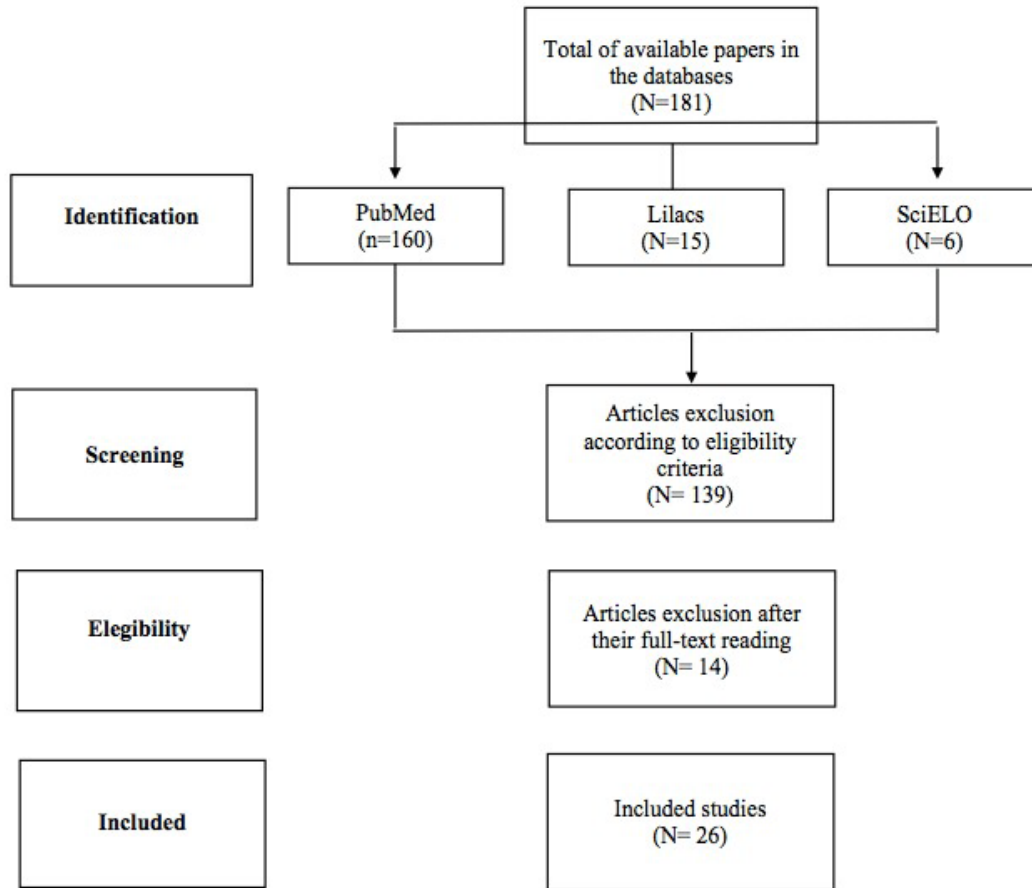


Figure 1: Flowchart regarding the data collection procedure for the integrative literature review, according to the PRISMA guidelines (Adapted from Moher et al. 2009)¹⁹.

Table 2: Studies characteristics summary.

Authors	Country/Year	Objectives	Participants	Results
Brochu et al.	Canada, 2018	To clarify the bonds between the quality of multiple interpersonal relationships, self-esteem, negative mood, and symptoms of ED in female teenagers.	186 female teenagers.	The level of perceived alienation in the relationship with the mother and peers was positively associated with the severity of the ED symptoms. Low self-esteem and negative mood mediated these associations.
Albinhac et al.	France, 2018	To analyze parental ties in children and adolescents with AN.	25 children and adolescents (aged 10-17 years).	There is a positive correlation between maternal protection and the age of diagnosis, and a negative correlation between parental care and disease duration.

Allan et al.	Australia, 2018	To expand the results of a randomized clinical trial comparing conjoint-family treatment with family-based treatment, and to describe emotion expressed in parents of adolescents with AN and their relationship with the severity of the disease.	Teenagers (from ages 12-18) and their parents	An increase in maternal criticism was observed in adolescents whose mothers showed an increase in the expressed emotion. There were no significant effects on the expressed paternal emotion.
Depestele et al.	Belgium, 2016	To investigate the differences in negative and positive care between mothers and fathers of patients with ED, with or without non-suicidal self-injury behaviors or bingeing/purging.	65 female patients and their parents.	Mothers reported significantly more positive care experiences compared to fathers. Mothers and fathers of patients with ED differ in care experiences; binge eating and non-suicidal self-harm behaviors negatively affect the care experience.
Moura et al.	Brazil, 2015	To understand how mothers of adolescents with ED experienced the process of caring for their daughters from pregnancy to two years of age, seeking to investigate whether these experiences are related to symptoms manifestation during adolescence.	6 mothers of teenager patients with ED.	The mothers had difficulties supporting themselves, which caused intense suffering and a feeling of helplessness in view of the basic needs of their daughters. The children were described as voracious and dissatisfied, suggesting that they would have experienced difficulties in assimilating the care offered by their mothers in their first years of life.
Arnold et al.	United Kingdom, 2019	Highlight evidence in pregnant women with ED and the short- and long-term effects of these disorders on the mother and baby.	Systematic review	Overall, the evidence suggests that ED in pregnancy is dangerous for the health of the mother and baby. Not only does this pose a short-term risk to the baby, but also affects the child's health and increases the likelihood of developing an ED in the future.
Campos et al.	Brazil, 2012	Expand knowledge about the main psychological characteristics of mothers of daughters with AN, especially regarding the relationship with their daughters.	Seven mothers of patients with AN.	Common characteristics of the mother-daughter relationship were identified in AN cases. The issue of mutual control, the dialectic between omnipotence and impotence and the relationship of devotion, passion and annihilation between mothers and daughters are phenomena that are at the base of the structure of AN, with direct influence on the severity of each case and on the success of therapeutic possibilities.
Mushquash et al.	Canada, 2013	To evaluate whether perfectionism and psychological control lead to discord between mother and daughter.	218 mother-daughter dyads.	The daughters' perfectionism and the mothers' psychological control contribute to binge eating through compulsive triggers. Daughters believe their mothers demand that they be perfect and mothers are demanding and controlling.

Valdanha-Ornela et al.	Brazil, 2016	To understand the implication of intergenerationality in psychic transmission and in the articulation of anorexic symptoms in a young woman undergoing treatment.	Women from three generations of the same family: maternal grandmother, mother and daughter with AN.	Psychic contents were identified that could not be elaborated and that later became legacies transmitted to later generations. Feelings of inhibition and shame in relation to sexuality and the female body, transmitted from the grandmother to the mother and consequently to the granddaughter, seem to block the emotional development in later generations.
Marini	Brazil, 2016	Describe psychoanalytic concepts, mainly regarding the relationship between mother and daughter, from which it is understood that failures in the constitution of the psychic apparatus occur, generating symptoms such as AN and BN.	A single patient with ED.	There seems to be a kind of consensus about the importance of the family approach, and the interpretations regarding the problematic family bond.
Vázquez-Velázquez et al.	Mexico, 2017	To evaluate the association between eating behavior and the psychological profile of mothers and daughters with AN, BN, BED compared to a control group.	133 dyads (30 daughters with AN, 30 with BN, 19 with BED and obesity, and their respective mothers), and 54 dyads (daughters without ED or obesity, and their mothers) (control group).	The inverse correlations were significant between the dyad in AN and between the dyad in BN, however, the greatest positive correlations exist between the dyad and eating behaviour. Among the control dyads, the correlations were low, but significant in most cases.
Lantzouni et al.	USA, 2015	To explore the correlation between the dyad with regards to the daughter's disease coping behaviours in a sample of adolescent women with and without ED.	Girls aged 13 to 18 and their respective mothers.	The daughters handled the same way as their mothers in both groups. Adolescents with ED and their mothers used coping less frequently to avoid a flight from disease behaviours compared to adolescents without ED.
Gonçalves et al.	Portugal, 2012	Analyze the eating behaviour and body satisfaction of boys and girls and examine their mothers' perceptions of these two domains; to assess predictors of eating problems by using the body mass index (BMI).	111 children and their respective mothers.	No association was found between infant and maternal BMI for both genders. No difference was found between boys and girls in relation to eating behaviour; most children showed a preference for an ideal body image and real body image, and most mothers preferred thinner bodies for their children.
Bauer et al.	Germany, 2017	To investigate the family transmission focused on attention to the body and examine body patterns through the visualization of photos between the dyad.	50 female adolescents and their respective mothers.	An attention bias was observed for unattractive body areas of adolescents. The girls' visual attention bias score correlated significantly with the mother's visual attention bias (indicating indirect transmission).
Lewis et al.	Australia, 2015	To examine the association between emotive responses (levels of happiness, fear and disgust) to images of food in mothers and their early adolescent daughters with sub-clinical ED.	20 mothers and their respective teenage daughters.	There was a similarity between the emotional responses of mothers and daughters. The symptoms of the mothers' ED were related to concerns about their daughters' shape and body weight.

Castillo et al.	Spain, 2018	To analyse differences in symptoms of ED in parents and children with AN, BN, and UED compared to a control group.	348 participants assigned to three groups of patients and a control group.	Mothers from the clinical group had higher scores for ineffectiveness, interoceptive awareness, social insecurity and impulse regulation when compared to mothers from the control group.
Perez et al.	USA, 2018	To assess the body dissatisfaction, ideal internalization of the lean body, and self-objectification in children aged 5 to 7 years.	151 mother-daughter dyads: 63 children aged 5, 39 children aged 6 and 49 children aged 7.	Internalization of the ideal body was greater among children from ages 6-7. The mother's body dissatisfaction significantly and positively predicted her daughter's body dissatisfaction during the joint mirroring experiment.
Cohen et al.	South Africa, 2019	To analyze the relationship of body image disorders, ED and obesity in mothers and daughters by testing the association between perceptions of body weight, body esteem, eating attitudes and BMI.	615 mother-daughter dyads.	There was a higher prevalence of obesity in mothers and a higher risk of ED in daughters. The desire to lose weight increased significantly with increasing BMI. In addition, 52.7% of daughters who presented a desire to lose weight, had overweight/obese mothers.
Pilecki et al.	Poland, 2012	To evaluate the dietary attitudes of mothers of depressed girls and their relationship with them 14 years after the beginning of the Polish political and cultural transformation of 1989.	68 mother-daughter dyads.	The mothers' EAT-26 was lower than that of the general population (Polish women or mothers of patients in a different cultural context). In girls with ED, the EAT-26 score was higher when compared to the average result of the Polish population.
Cobelo et al.	Brazil, 2012	To evaluate body dissatisfaction and eating symptoms in mothers of patients with ED when compared to a control group.	35 mothers of female teenagers.	There was a positive correlation between BMI and Body Shape Questionnaire scores in the control group and a positive correlation between EAT-26 scores in the experimental group
Lease et al.	Australia, 2016	To investigate the relevance of the family environment (negative maternal messages) for the phenomenon of maladaptive exercise (mandatory).	298 women who attended a health and fitness center.	The frequency of negative maternal messages demonstrated significant associations with concerns about weight and body shape, frequency of exercise, exercise fixation and symptoms of ED.
Hillard et al.	USA, 2016	To analyze the individual and combined effects of maternal incentive in losing weight and in the communication of concerns about their own weight in the results related to their daughters' bodies and diets.	89 female adolescents.	When the mother's encouragement to diet and the conversations about weight concerns were frequent, the daughters reported less desire for thinness and inappropriate eating behaviours.
Berge et al.	USA, 2013	To evaluate the associations between parents' conversations about healthy eating and disordered eating behaviours.	2,793 adolescents.	Parents who engaged in weight-related conversations had children who were more likely to diet, adopt unhealthy weight control behaviours, and engage in binge eating.

Chow et al.	USA, 2018	To investigate how ED and depressive symptoms were related to the conversation about body fat in the mother-daughter relationship in adolescence.	100 mother-daughter dyads.	The involvement of teenager girls and their mothers in conversations about fats (both related to fatty foods and body fat) was related to the girl's ED. The more constant the frequency of these conversations between mothers and daughters, the greater the risk of food pathology of the daughters.
Damiano et al.	Australia, 2015	To associate individual and socio-cultural factors with a focus on weight and trends in food restriction in 5-year-old girls.	111 mother-daughter dyads.	Most of the girls were satisfied with their body size, half showed some internalization of the ideal body and 34% of them reported practising a restrictive diet at a moderate level. Conversations about appearance and exposure in the media were unique predictors. Media exposure was also related to higher BMI, and greater internalization of girls were associated with conversations about appearance.
Arroyo et al.	USA, 2017.	To explore eating disorders and communication behaviours between grandparents, daughters and granddaughters as intergenerational mechanisms.	242 daughter-mother-grandmother triads.	There was a relationship of eating disorder only in the reports between mothers and daughters. Various indirect effects were observed through maternal comments and maternal modelling.

Discussion

According to the defined categories, the selected research articles are presented and discussed.

The family relationship and the mother-daughter bond

Aspects of family dynamics are potential risk factors for the development of ED and family participation in the treatment of children is an important intervention strategy. Some characteristics of the family and patient dynamics are frequently mentioned in the literature, such as low emotional expression capacity, low level of cohesion and experience of conflicts more intense when compared to the families used as controls [22]. These results demonstrate that the family relationship has a significant impact on both the development and maintenance of the ED symptoms [23].

Brochu *et al.* [24] investigated the relationship between family members of 186 female teenagers with AN regarding self-esteem and negative mood. The authors verified that if this relationship is positive, the aforementioned characteristics improve during treatment as well as the effectiveness of the treatment itself. Another study evaluated the family bond in 25 girls (among kids and teenagers) with AN. In those aged between 10 and 14 years old, it was observed that, while the father demonstrated autonomy in relation to his daughter, the mother revealed herself to be overprotective, which resulted in a prolonged hospitalization for these patients. For the older ones (14 to 17 years old), mothers showed affection restriction and emotional control in relation to their daughters [25]. Supporting these findings, Allan *et al* [26] found that high levels of maternal criticism were related to the disease longer duration, however, changing these feelings leads to an improvement in the treatment of the children's ED.

One more aspect verified in the behavior for a possible diagnosis of these conditions was the care adopted by parents of children with ED. Thereby, in a study with 65 female patients and their parents, Depestele *et al* [27] found no differences between the caring experiences lived by daughters who practised restrictive diets in relation to those with binge eating. On the other hand, mothers of girls with restricted diet reported more positive caring experiences compared to mothers of those with binge eating.

The mother's emotional characteristics are also analyzed, especially during pregnancy, when psychological changes may occur during this period. Changes in diet, body shape and weight tend to trigger or exacerbate dysfunctional behaviors related to food and the body. This situation leads to increased anxiety and concern about body dimensions in pregnant women with or without an ED history [28]. In this context, after analyzing the pregnancy experiences of six mothers whose daughters were undergoing ED treatment, Moura and collaborators [11] found that these women had experienced feelings of anguish, fear, helplessness, anxiety and emotional acceptance of the pregnancy since they were not prepared for motherhood. Other reported concerns involved frustration, anger and guilt. Another review studied women who got pregnant during their ED treatment and the results showed that there was a decrease in symptoms because those women would avoid behaviors that they considered harmful to the foetus, which favoured the improvement of the condition [29]. In this scenario, mothers with ED are potential long-term risk factors for increasing the likelihood of developing the same disorder in their child.

Control was one more aspect observed in mothers in relation to their daughters with ED. That was due to their belief of not being able to take care of themselves, triggering a feeling of overprotection

towards their children. Mothers tend to deny their daughters' individuality by being tutors of their acts [30]. According to Mushquash and Sherry [31], mothers' psychological control plays a unique role in influencing their daughters and contributing to situations that might trigger binge eating in them. For this reason, psychotherapeutic monitoring for mothers would be useful to assist this process of dependence.

The mother-daughter bond also emerged as an important element by revealing the family dynamics and the functioning of the dyad, understood as symbiotic, insecure and ambivalent, surrounded by feelings of invasion and emotional intrusion, abandonment and helplessness. Among the reports of the participants in a qualitative study carried out with a triad (grandmother, mother and daughter), there are repeated experiences of little affective attention between mothers and daughters [32].

According to Marini [33], there are flaws in the constitution of the process of subjectification and the body, installed by the symbiotic bond between mother and daughter due to inadequate maternal investment. Regarding ED, from a psychoanalytic point of view, breaking the symbiotic relationship between mother and daughter provokes reflection where there is action, enabling the constitution of a subjectivity of its own where there is a fusional unity.

Vázquez-Velázquez *et al* [34] evaluated 133 mothers whose daughters had AN (n = 30), BN (n = 30), Binge Eating Disorder (n = 19) or belonged to the control group (n = 54), as they did not suffer from any ED or obesity. The authors revealed that the association between eating behavior and the psychological profile of mothers and daughters with ED varied depending on the daughter's diagnosis. In AN, when the daughter did not identify with the mother, which prevented her individualization process, there was a chance that the daughter would develop the disorder. In BN, the most relevant correlation showed that the greater the daughter's confidence in the mother, the lower the mother's food restriction, being that in this study both would present difficulty in restricting their food.

Supporting these findings, another study explored the mother-daughter dyad in relation to the behaviours of female teenagers with and without ED. The results corroborated with the hypothesis that daughters with ED behave very similarly to their mothers, suggesting that they are strongly influenced by their mothers' modelling and interaction with the world around them [35].

Eating behavior and body image

The mothers' eating behavior has been also explored in the literature to understand their relationship with food and the possible influence on the development of their daughters' ED. Gonçalves *et al* [36] observed the differences between eating behaviors and body satisfaction in pre-adolescents and the perception of their mothers. More than half of the sample (55% of boys and 58.3% of girls) reported body dissatisfaction and the mother's influence on their children's food, suggesting that the practice of maternal diet causes concern and inappropriate eating behaviors in the children. Moreover, the study reported that dieting mothers were also more likely to have eating problems.

Body image was also a variable found in this study, and it describes the mental figure that the individual has in relation to the extension, contours and shape of its own body, in which body self-perception, attitudes, beliefs, practices, representations, feelings, sensations and behaviors related to the body are only involved in the body image phenomenon [37-38]. Thus, Bauer *et al* [39] in their study with 50 mothers analyzed the association between the behavior observed in looking at their own bodies between adolescents and their mothers. The behavior of looking at

their own bodies, in both the experimental (daughters with ED) and control group (healthy daughters), correlated significantly between mothers and daughters suggesting that the more mothers paid attention to their own bodies, the more daughters also had this behavior. Likewise, Lewis *et al* [40] verified the effect of the maternal model in relation to the emotional response to food and observed that mothers who practice a restrictive diet are concerned with the shape and size of their daughters' bodies.

In a study involving 348 teenagers with AN, BN and unspecified eating disorder (UED), their parents and a control group, Castillo *et al* [41] observed that the children with BN showed greater body dissatisfaction, search for thinness and impulsiveness. Comparing the mothers from the experimental group with the ones from the control group, the former presented higher results in the assessment of body image and search for thinness. Other authors also have observed the mother's influence on her daughter's body satisfaction through the exercise of making the participants look themselves in a mirror at individual rooms, and then together. The results showed that during the individual exercise, 16% of the girls made negative comments about four or more parts of their bodies but changed their opinions when exposed to their mothers' responses, in the joint task. More than half (61%) of the girls changed their opinion after hearing the positive response about their bodies from their mothers [42].

By testing the participants' perceptions of their weight associated with eating behaviors, a study with 615 dyads analyzed the relationship between mother and daughter in the distortion of body image in ED and obesity cases. It was shown that mothers and daughters had conflicting perceptions of weight because most mothers were overweight, while daughters had adequate weight. Although mothers demonstrated better body perception and more adequate eating attitudes compared to their daughters, they were more predisposed to developing ED. Furthermore, while daughters tended to overestimate their own weight, overweight mothers desired that their daughters would lose weight [43].

Differently to these findings, Pilecki *et al* [44] did not confirm the hypothesis that mothers of daughters with ED who spent adolescence in Poland have more eating problems and body dissatisfaction than mothers of patients with depression. These results suggest that the political-social changes in that country made the mothers less susceptible to the Western cultural models of femininity and cult of thinness. Similarly, Cobelo [45] did not find a significant difference in the mothers' body dissatisfaction between the experimental and control groups (composed by girls without ED, considered healthy), since most of them were satisfied with their bodies. However, mothers of teens with AN were more likely to experience body image dissatisfaction compared to mothers of patients with BN or UED.

Messages, dialogues and other forms of communication

The types of communication between mother and daughter are commonly studied to verify their influence on the development of ED. Lease and colleagues [46], from a sample of 302 mothers, observed that maternal messages related to their daughters' weight, body shape and restrictive diet behaviors have a negative effect, which favors a stressful environment between them. It can also be hypothesized that this type of dialogue contributes to negative feelings or attitudes that extend to domains beyond body image and dietary concerns.

In this regard, it is important to understand whether the symptoms of ED can be aggravated by conversations between the dyad. Another study involving 100 adolescents and their mothers found that the more they had conversations about body satisfaction (fat talk), the greater the girls' body dissatisfaction and the risk of developing ED [47].

By investigating 3,709 parents, Berge *et al* [48] observed that the dialogue between parents and their daughters was frequent, however for those girls with excess weight, the subject of that conversations was usually about healthy eating and weight. Results also suggested that the harmful behaviour of the daughters was associated with the type of communication between parents and children. Examples of conversations about weight and body size, as well as pointing out the fact that the child is overweight or eats differently (in order to lose or not gain weight) were associated with an increased risk of disordered eating behaviours. Hillard *et al.* [49] revealed in their study with 89 adolescents, that maternal incentive to diet practices was reduced by the mothers' concerned conversation about their own weight. When the mother's speech on this subject is frequent, the motivation for thinness and restrictive diet behaviors by the daughter is lower, suggesting that the mother does not contribute to a possible diagnosis of ED in the daughter.

With regard to other types of communication and the development of ED, Damiano and collaborators [50] studied 109 mothers and their daughters, revealing that the girls' dietary restriction was related to sociocultural factors including the time exposed to television and conversations about appearance. These results led to the hypothesis that disordered eating may start early in this group.

According to Arroyo *et al.* [51], who approached 242 triads (composed by grandmothers, mothers and daughters), revealed that the only direct effect of disordered eating was between mothers and daughters. Furthermore, there were several indirect effects of maternal influence variables, including reports from grandmothers about maternal comments regarding the unbalanced feeding of their granddaughters and perceptions about maternal behaviors in a linear pattern demonstrating that transgenerationality seems to influence this relationship between mothers and daughters. For Miranda [52], in transgenerational transmission, the girl, anchored in the history of her ancestors (mother, grandmother, great-grandmother) receives psychic material that was not efficiently metabolized by previous generations, hindering a new integration, responsible for feelings of emptiness and failures in the identification process.

Conclusions

The present study allowed us to analyze the national and international scientific literature about the influence of mothers in the development of their daughters' eating disorders, in order to expand the knowledge of this theme. Results showed that the mothers' behavior influences the appearance of ED in their daughters, verified under different strands. Throughout this review, several variables were identified as potential factors, such as the mother's personality profile, the type of bond between them, the eating behavior and bodily attitudes experienced between them, and the type of communication established by the dyad. These aspects seem to reflect, individually or together, on the appearance of symptoms that may start in childhood and extend into adulthood. By examining the methodological criteria that supported the selected studies, it was verified that most of the articles had a non-experimental, transversal and descriptive methodological approach, with a qualitative and quantitative research focus. There was an absence of studies with randomized clinical trials and a small number of quasi-experimental studies. As future directions for researches in the field of ED and mother-daughter relationships, it is recommended that randomized controlled trials, which involve experimental studies, should be conducted.

Altogether, this review discussed the influence of mothers on the development of their daughter's ED, besides the necessity of

health promotion actions in the population in order to prevent these serious disorders, and detect their signs and symptoms early. In addition, interventions for families, especially for mothers, are recommended in order to seek for more effective therapeutic and prognostic results. Further research on this subject seems to be not only important but also necessary, since the low number of research papers related to this topic was the main limitation of this integrative review.

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