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BODY DISTRESS IN EATING DISORDERS: A COMPREHENSIVE REVIEW OF TREATMENT TECHNIQUES

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Eating disorders (EDs) diseases affect eating habits and behaviors, with physiological and psychosocial complications. Among these disorders, the most known and studied are anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED). The existence of innumerable approaches to psychological therapy for EDs reflects the complexity of these disorders. Objective of this review is therefore to offer a research overview with particular reference to the last 15 years, to help to better understand which forms of therapy for EDs are more studied, more accredited, and more effective according to the most recent literature. From the articles considered, the efficacy emerged of many types of approach for the treatment of EDs: cognitive-behavioral therapies, psychodynamic treatments, family therapies, and alternative forms of treatment, such as specialist supportive clinical management (SSCM), motivation-focused treatment, temperament-based treatment, and Maudsley model of anorexia nervosa treatment for adults (MANTRA).

Key words: Eating disorders; Anorexia nervosa; Bulimia nervosa; Binge eating disorder; Psychological treatment.

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Eating disorders (EDs) are pathologies characterized by severe alterations in eating behavior, with important physiological and psychosocial effects (Murphy, Straebler, Cooper, & Fairburn, 2010). The DSM-5 has redefined them as "feeding and eating disorders," and the Manual provides a detailed diagnostic classification. The most known and studied EDs, and those that will be taken into consideration in this paper are anorexia nervosa, bulimia nervosa, and binge eating disorder (BED). The prevalence is 5% in the general population (Treasure, Claudino, & Zucker, 2010). Anorexia nervosa is particularly common among young women, with a significant increase of risk for the group of girls aged between 15-19 years, in recent years. Compared to other disorders, BED appears to be more common in the male population and in older individuals (Smink, Van Hoeken, & Hoek, 2012). Psychological therapies play a fundamental role in the treatment of these disorders. The literature present in the context of the psychological treatments of EDs reflects the complexity of these pathological pictures. Their etiology is in fact multifactorial, comprising different biological, psychological, and social alterations.

Among them, there is an overevaluation of shape and weight (Fairburn, 2008), which affects the capability to create deep and intimate relationships and to be with others. Furthermore, negative eating habits alter emotional status, the cognitive functioning, and family relationships (Bohn et al., 2008). In the literature there are numerous studies that investigate multiple approaches of psychological therapy for EDs,

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considering them both individually and as a whole. At this point, it is clear that a comprehensive study of EDs constitutes a real challenge: there are many elements to be taken into consideration at the same time (e.g., medical conditions, psychosocial functioning, psychological well-being of the patient, psychological well-being of the family). Besides, there is an additional complexity considering the extreme variety of psychological therapies that until now have been used, more or less effectively, for the treatment of these disorders. The objective of this review is therefore to offer a literature research overview with particular reference to the last 15 years, to help to understand which forms of therapy for EDs is more studied, more accredited, and more effective according to more recent literature.

METHODS

An online research was conducted on PsychInfo, Google Scholar, and on the University library system of Padua AIRE portal, using the following key words: "eating disorders," "treatment," "psychological treatment," "psychotherapy," "psychodynamic treatments," "cognitive-behavioral treatments," "anorexia nervosa," "bulimia nervosa," "binge eating disorder."

As *inclusion criteria*, we selected all of the studies that investigated forms of psychological treatment for EDs from 2003 onwards, including both research studies investigating the entire category of EDs and those that considered them individually. As *exclusion criteria*, we discarded all the documents prior to the last 15 years, studies investigating EDs without referring to forms of psychological treatment, and studies on psychological treatments that did not include a section dedicated to EDs. A total of 14 studies was selected among which, nine reviews (which investigated family therapy, family-based treatment, psychodynamic therapies, temperament-based treatment, and cognitive-behavioral therapy for the treatment of EDs) and an "intervention review" — which compared the treatment as usual (TAU), focal psychodynamic therapy (FPDT), optimized TAU, cognitive-behavioral therapy (CBT). Studies reviewed are summarized in Table 1.

Considering that these studies show a broad range of heterogeneity from various points of view (e.g., the type of research, the types and number of therapies evaluated), for this review it was decided to follow a pertinent criterion in relation to the fundamental theme of the present dissertation, that is "eating disorders and treatment techniques."

REVIEWS

The Review by Fairburn and Harrison

The first review considered (Fairburn & Harrison, 2003) provides an initial overview of classification criteria, diagnosis, distribution, risk factors, pathogenesis, and medical characteristics of EDs.

Bulimia nervosa. More than 50 randomized controlled trials conducted on this disorder have produced significant results. Main findings are: A specific form of CBT based on behavioral modification and the thoughts that feed these disorders was the most effective (Fairburn, 1981). The antidepressants "anti-bulking" effect was also noted: they lead to a decrease in binge eating episodes and compensatory behaviors, as well as an emotional improvement (Mitchell et al., 1990). Finally, no significant predictors of outcome were identified (Bulik, Sullivan, Joyce, Carter, & McIntosh, 1998). Other results, statistically less significant, found that the combination of CBT with antidepressant therapy in some cases would be more effective than CBT alone (Mitchell et al., 1990; Walsh et al., 1997). Two trials suggest that interpersonal

psychotherapy (IPT) may be as effective as CBT, but would require more time (Fairburn, Jones, Peveler, Hope, & O'connor, 1993; Agras, Walsh, Fairburn, Wilson, & Kraemer, 2000). Finally, more broadly behavioral treatments could help some types of patients (Carter et al., 2003).

TABLE 1
Summary of studies

Study	Anorexia nervosa	Bulimia nervosa	Binge eating disorder	Atypical eating disorders	All eating disorders	Therapies evaluated	Number of participants
Fairburn & Harrison (2003)					*	Cognitive-behavioral therapy (CBT), Antidepressants, CBT+Antidepressants, Interpersonal psychotherapy (IPT)	/
Wilson, Grilo & Vitousek (2007)					*	Maudsley model (family therapy), Individual psychotherapy, CBT, Antidepressants, IPT, Dialectical behavioral psychotherapy, Behavioral therapy for weight lost	/
Leichsenring et al. (2015)					*	Psychodynamic psychotherapy (PDT), CBT, Counseling	647
Abbate-Daga, Marzola, Amianto, & Fassino (2016)	*	*	*			PDT, CBT, Family-based therapy (FBT), IPT, Treatment as usual (TAU)	2624
Murphy et al (2010)					*	CBT, Enhanced-CBT (CBT-E)	/
Allen et al. (2012)					*	CBT, Motivation-focused treatment (MFT)	95
Schmidt et al. (2015)	*					Specialist supportive clinical management (SSCM), Maudley model of anorexia nervosa treatment for adults (MANTRA)	142
Dalle Grave, Calugi, Doll, & Fairburn (2013)	*					CBT-E	49
Couturier, Kimber, & Szatmari (2013)					*	FBT, TAU	369
Murray & Le Grange (2014)					*	FBT, Multi-family therapy, Systemic family therapy	/
Agras (2017)	*					FBT, Parent-focused treatment (PFT)	107

(Table 1 continues)

Table 1 (continued)

Study	Anorexia nervosa	Bulimia nervosa	Binge eating disorder	Atypical eating disorders	All eating disorders	Therapies evaluated	Number of participants
Hay, Claudino, Touyz, & Abdul (2015)	*					Cognitive analytic psychotherapy (CAT), Focal psychoanalytic therapy (FPT), Focal psychodynamic therapy (FPDT), CBT-E, CBT, IPT, Self-psychology therapy, Cognitive orientation therapy	599
Byrne et al. (2017)	*					SSCM, MANTRA, CBT-E	120
Kaye et al. (2015)	*					Temperament-based treatment (TBT)	/

Note. * Some studies do not present a sample number but they focus on history/effectiveness of treatments.

Anorexia nervosa. In the section dedicated to this disorder the authors refer to a lack of literature that investigates the treatment. Therefore, they focus on those aspects that are accredited as more critical for this type of patient. The first element to consider is to make patients understand that they need help and maintain motivation along the entire path (Vitousek, Watson, & Wilson, 1998). The second is obviously for subjects to regain weight. The third is related to their eating habits, to their psychosocial functioning, and to their bodily perception, which is clearly distorted: they tend to overestimate the weight and shape of their body. In this regard, family therapy seems to be partially effective, especially with adolescent patients (Marogna, Caccamo, Salcuni, & Nobile, 2016; Russell, Szmukler, Dare, & Eisler, 1987). The fourth and last aspect of considerable importance is the obligatory nature of the treatment: although legally permitted in borderline cases, it must be managed in the best way in the interest of the patient (Goldner, Birmingham, & Smye, 1997).

Atypical eating disorders. Authors note the lack of research on the treatment of these disorders, stating how it can be useful for clinicians to follow the guidelines for the treatment of bulimia nervosa in cases of binge eating, and those of anorexia nervosa if there is weight loss.

The Review by Wilson, Grilo, and Vitousek

Wilson, Grilo, and Vitousek (2007) proposed a review on the psychological treatments of EDs, referring to studies backdated for 25 years. Anorexia nervosa, bulimia nervosa, eating disorders not otherwise specified, and binge eating disorder, are treated separately and for each one the authors indicate the treatment of choice according to existing bibliography.

Anorexia nervosa. Limited research on the treatment of this disorder is underlined, counting a total of 15 comparative trials completed and published over the previous 20 years. Below are the most significant results, broken down by type of treatment. Family therapy: most accredited family treatment type is the Maudsley model (Dare, & Eisler, 1997; Lock, & le Grange, 2005). In particular, in a study performed

by Russell, Szmukler, Dare, and Eisler (1987), it emerges that in a group of young patients, family therapy produced a significant percentage of healings (after 5 years, 90% had no more symptoms), with a significantly greater efficacy than an individual dynamic mold therapy. However, this recorded efficacy may have been due to the characteristics of the sample taken into consideration (Fairburn, 2005). Subsequent studies found less efficacy of this type of treatment, when compared with individual therapies (Robin, Siegel, Koepke, Moye, & Tice, 1994). The only scientific evidence that belies the effectiveness of the Maudsley model derives from two randomized controlled trials in which this form of "joint" family therapy was compared with a form of treatment where the patient and the parents participated in separate sessions (Eisler et al., 2000; Le Grange, Eisler, Dare & Russell, 1992). For CBT, this form of treatment seems to be the one most frequently studied, counting in all six randomized controlled trials. Three of them compared CBT with one or more alternative forms of therapy, without detecting significant differences (Ball & Mitchell, 2004; Channon, de Silva, Hemsley, & Perkins, 1989; McIntosh et al., 2005). The other three compared CBT with nonpsychological approaches, so they are difficult to interpret (Halmi et al., 2005; Pike, Walsh, Vitousek, Wilson, & Bauer, 2003; Serfaty, Turkington, Heap, Ledsham, & Jolley, 1999). In addition, no efficacy appears in antidepressant drug administration, such as fluoxetine, for anorexia nervosa treatment (Attia, Haiman, Walsh, & Flater, 1998). According to the authors, in absence of a psychotherapeutic support, nutritional counseling is not recommended.

Bulimia nervosa. According to this study the most accredited form is manual CBT, even though IPT has given positive results. For CBT, the National Institute for Clinical Excellence guidelines (NICE, 2004) defined CBT manual (Fairburn et al., 1993) as the elective treatment for adults with bulimia nervosa. It was significantly more effective than drug therapy based on antidepressants, and superior compared to other psychological treatments (Wilson & Fairburn, 2002). CBT is able to drastically reduce binge eating and compensatory behaviors in about 30-50% of cases. Regarding interpersonal therapy, initially deputy for depression, it was adapted for bulimia nervosa treatment from Fairburn et al. (1993). In this study, it was less effective than CBT in immediate post-treatment, but equally effective in follow-ups one and six years later. Other studies (Agras et al., 2000) have confirmed these results. Regarding CBT combined with antidepressant drugs, no studies demonstrate a greater efficacy of the combination of these two treatments, compared to the CBT only. Dialectical behavior therapy (DBT) consists of a behavioral therapy variation, and is supported empirically (Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004). Some of its specific strategies have been incorporated into CBT for bulimia nervosa, increasing its effectiveness (Fairburn & Harrison, 2003; Stice & Agras, 1999).

Eating disorders not otherwise specified. This diagnostic category is heterogeneous and not specifically defined. It mainly includes disorders that go in the anorexia nervosa or bulimia nervosa direction, while not completely following the diagnostic criteria. Authors have pointed out an absence of controlled treatment trials of this band of disorders, although Fairburn and Harrison (2003) developed a second generation treatment for the entire spectrum of EDs, which goes in the direction of a "trans-diagnostic" approach, focusing on the characteristics and underlying mechanisms that unite them.

Binge eating disorder (BED). Also for this disorder, the authors found a lack of literature. The research has not yet established whether obese subjects with BED benefit from behavioral treatments for weight loss more than obese subjects not affected by BED (Gladis et al., 1998; Sherwood, Jeffery, & Wing, 1999). Despite this, CBT seems to be the most supported and studied form of treatment. Below are various type of techniques. Regarding CBT, for BED elective treatment seems to be an adapted form of the cognitive model adopted for bulimia nervosa (Fairburn et al., 1993). In some controlled trials on the use of CBT, they found a reduction in binge episodes and associated problems (Wilfley et al., 1993). CBT is generally

associated with high rates of treatment completion (about 80%) and a remission of binge eating in about 50% of subjects, with improvement also from a psychosocial point of view. A study by Grilo, Masheb, and Salant (2005) found that CBT is significantly more effective than treatment with Fluoxetine or placebo, and this result supports the hypothesis that CBT is specifically effective for this kind of disorder. Considering IPT, two different studies discovered that this technique has the same results as CBT regarding remission effectiveness, with significant rates of healing and maintenance of effects in follow-up at 12 months (Wilfley et al., 1993; 2002). For DBT, some of its typical strategies appear to be particularly suitable for regulating the maladaptive eating patterns typical of this disorder (Grilo, Masheb, & Wilson, 2001). Literature on behavioral therapy for weight loss is divided: In some cases an improvement in bingeing frequency in obese patients is found (Gladis et al., 1998); in others, researchers pointed out a failure of these approaches in treating BED and in obtaining weight loss (Devlin et al., 2005). NICE (2004) conducted a meta-analysis on the literature on pharmacotherapy for BED; no significant differences between drugs and placebo for this disorder were found.

A Review on Psychodynamic Psychotherapies

An updated review on psychodynamic psychotherapies (Leichsenring et al., 2015) presents a section dedicated to the use of these treatments for EDs. According to a study (Bachar, Latzer, Kreitler, & Berry, 1999), greater efficacy of psychodynamic therapy (PDT) compared to CBT and nutrition counseling was found. Other studies have not found differences between PDT and CBT in the outcome of the treatments (Fairburn, Kirk, O'Connor, & Cooper, 1986; Garner et al., 1993), but according to the authors these studies were not sufficiently valid. In a randomized controlled trial, CBT was higher than PDT, but the results were disputed since PDT was manualized but not focused on symptoms (Poulsen & Lunn, 2014; Tasca, Hilsenroth, & Thompson-Brenner, 2014).

A more recent review by Abbate-Daga, Marzola, Amianto, and Fassino (2016) included numerous studies related to psychodynamic treatments for EDs. The authors included studies comparing psychodynamic treatments and other types of treatment, such as family therapy for adolescents, enhanced cognitive-behavioral therapy (CBT-E), IPT, temperament-based treatment (TBT), and emotion acceptance behavior therapy (EABT), subdividing them by single disorder. In total, 47 studies were selected, most of them with methodological limitations and sometimes controversial results. Studies on ED therapies are few compared to those for other types of disorders; they are in fact difficult to manualize, they require a lot of time to complete, and they are strictly adapted to individual patients. Below are treatments divided for disease.

Anorexia nervosa. For this disorder, PDTs appear to be as effective as CBT and family therapy, but more effective than TAU (Dare, Eisler, Russell, Treasure, & Dodge, 2001; Zipfel et al., 2014), and than the absence of treatment (Cowers, Norton, Halek, & Crisp, 1994). There are two elements that contribute most to the change process: a) interpersonal factors (Zipfel et al., 2014) and b) recognition and emotional awareness (Abbate-Daga et al., 2012). The most recent study on the subject (Zipfel et al., 2014) proposes an average length of psychodynamic treatments of about 40 sessions, but previous research such as Abbate-Daga (2012) hypothesizes the effectiveness of even longer treatments.

Bulimia nervosa. Some studies suggest a good efficacy of psychodynamic treatments for bulimia, although to a lesser extent compared to CBT both as regards food symptoms (Zipfel et al., 2014) and when it concerns complete remission (Poulsen et al., 2014). It could therefore be useful to implement PDTs with a more active and direct approach to symptoms, rather than the transfer analysis, the style of attachment,

unconscious narrative styles, whose results take many years to become tangible. According to authors of the review, PDTs for EDs highly value the therapeutic relationship, thus emphasizing the importance of both ego-syntonic and attachment aspects. In fact, attachment styles are currently receiving a lot of attention in relation to how adults cope with severe illness and how health care practitioners can facilitate patients' adaptation and self-esteem as seen also in nonclinical settings (Calvo & Bianco, 2015).

Binge eating disorder (BED). Having been identified as a separate disorder only in 2013, the dynamic therapy study for BED is still in its infancy, particularly for follow-up studies. However, in some comparative studies similar efficacy was found for psychodynamic and interpersonal psychotherapies, and greater efficacy for dynamic therapies when compared with patients on the waiting list (Tasca et al., 2006).

A Review Focused on Cognitive-Behavioral Treatments

A study by Murphy et al. (2010), dedicated the main results in literature review just for this type of technique, divided by single disorder.

Bulimia nervosa (BN). According to this review CBT is the elective treatment for bulimia nervosa. Classical CBT appears to be associated with a completion rate of treatment with associated complete remission of approximately 50% of patients (Wilson, Grilo, & Vitousek, 2007).

Anorexia nervosa. Authors point out a scarcity of studies, the majority of which investigate samples that are too small to be able to provide significant evidence. A recent study (Wilson et al., 2007) investigated an enhanced form of CBT, the CBT-E, which seems to yield promising results. It can in fact be used to treat about 60% of outpatients, and of these 60% have good outcomes. The percentage of relapses appears particularly low.

Binge Eating Disorder (BED). Recent narrative reviews and systematic reviews focused on treatments for this disorder (Brownley, Berkman, Sedway, Lohr, & Bulik 2007; NICE, 2004; Sysko & Walsh, 2008). The most significant evidence is in favor of a form of CBT similar to that used for bulimia nervosa treatment, which seems to be particularly effective against binge episodes, but less effective on weight loss.

Eating disorders not otherwise specified (NOS). Scarcity of studies is underlined, despite being a category with high prevalence and severity (Fairburn et al., 2007). In a recent randomized controlled trial, Fairburn, Cooper, O'Connor, Bohn and Palmer (2009) used CBT-E and found an efficacy in treating this type of disorder equal to that of CBT-E for bulimia, with a success rate of about 66%.

A Motivation-Focused Treatment

A research conducted by Allen et al. (2012) aimed to evaluate the effectiveness of a motivation-focused treatment (MFT), given before a CBT, for the treatment of EDs. Previous research had shown that low levels of motivation and readiness for change were associated with high rates of therapeutic abandonment and poor outcomes (Geller, Cockell, & Drab, 2001; Geller, Zaitsoff, & Srikameswaran, 2005). A group of 52 patients who had participated in four sessions of MFT before performing a CBT-E was studied, comparing them with 43 patients who had benefited only from CBT-E. Results showed the possible utility of MFT in increasing motivation and readiness for change in subjects suffering from EDs. Repeated measures analysis has indicated that these benefits do not exceed those deriving from CBT-E taken individually. In both forms of treatment subjects presented similar percentages of readiness for change, similar

actual change before and after treatment, similar percentages of completion of treatment, and similar number of sessions of CBT-E, confirming the results of Katzman et al. (2010), who in their study highlighted the effectiveness of CBT-E in its original form.

A Comparison between Two Methods

A study by Schmidt et al. (2015) compared the Maudsley model of anorexia nervosa treatment for adults (MANTRA) — a form of empirically supported cognitive-interpersonal therapy — with the specialist supportive clinical management (SSCM) for patients diagnosed with anorexia nervosa. The authors involved 142 anorectic patients randomly assigned to receive 20 to 30 weekly sessions (depending on the severity) of MANTRA or SSCM. Results showed an improvement for both groups regarding body mass index (BMI), food psychopathology, affective symptoms, and psychosocial dysfunction, including subsequent post-randomizations at six and 12 months. Therefore, there was no significant difference in the outcomes between the two treatments.

Family-Based Therapy

Given the wide spread of family therapy in the treatment of EDs, a paragraph will be dedicated to this technique, in order to better understand how family-based therapy (FBT) has recently been applied in this area. Some studies have compared this technique with other forms of therapy.

Dalle Grave, Calugi, Doll, and Fairburn (2013) compared the classic FBT and the CBT-E for the treatment of anorexia. CBT-E is the elective treatment for bulimia nervosa (NICE, 2004; Shapiro et al., 2007), but has been readapted for any form of ED, including anorexia. The study involved 46 female adolescents diagnosed with anorexia nervosa, treated with 40 sessions of CBT-E over a period of 40 weeks. The results showed a 63% completion rate of therapy, a substantial increase in weight (in subjects who had completed the course), with an average of 8.60 kg.

A systematic review and meta-analysis conducted by Couturier, Kimber, and Szatmari (2013) evaluated the efficacy of FBT compared with individual treatment for adolescents with EDs. A previous meta-analysis conducted by Fisher, Hetrick, and Rushford (2010) found greater efficacy of FBT in terms of remission when compared with TAU, for patients with anorexia nervosa. However, this study did not subdivide patients based on age, despite several studies highlighting how adolescents respond better than adults to family therapies. Moreover, this paper had not differentiated between the different types of family therapies. Couturier et al.'s meta-analysis included three different studies, the only ones that met the restrictive inclusion criteria (Le Grange, Crosby, Rathouz, & Leventhal, 2007; Lock et al., 2010; Schmidt et al., 2007). Results did not appear significant, indicating that FBT did not differ in efficacy with respect to individual therapy at the end of treatment.

Murray and Le Grange (2014) studied family therapies for adolescents with EDs. The authors found that in the last 40 years family therapies have evolved, integrating structural (Baker, Minuchin, Liebman, & Rosman, 1978), systemic (Palazzoli, 1974), strategic (Madanes, 1991), narrative (Ghedin et al., 2014; White, 1983), solution-oriented (O'Halloran, 1999), multi-family (Dare & Eisler, 2000), and integrated approaches (Lock & Le Grange, 2015). Improvements have recently been proposed for FBT, which could enhance treatment effectiveness itself. A modern family therapeutic approach (multi-family

therapy) involves 6-8 families, in the presence of other families who are facing the anorexia of their children, and that co-presence drastically reduced stigmatization and the sense of loneliness effects (Asen, 2002; Marogna & Caccamo, 2014). Multi-family therapy seems to be a valid alternative to FBT: several studies report extremely low rates of treatment abandonment, and a positive perception of the benefits of treatment by parents and adolescents (Dare & Eisler, 2000). Promising results also derive from a combination of classical FBT, systemic-familial therapy, and parent education (parent-coaching), demonstrating weight gain in adolescents with anorexia nervosa (Rockwell, Boutelle, Trunko, Jacobs, & Kaye, 2011).

The last study focused on FBT was performed by Agras (2017), in which the focus was the treatment of adolescents with anorexia nervosa. Starting from the evidence that FBT proved to be significantly effective in the treatment of these patients, the study involved 107 adolescents between 12 and 18 years old, diagnosed with anorexia nervosa, randomized into two different types of treatment: FBT, which involves the whole family, and parent-focused treatment (PFT), which involves only the parents in the treatment. Results showed that parental involvement (PFT) would appear to be more effective at the end of treatment than FBT; however, in the follow-up after six months no significant difference was found between the two forms of therapy. An analysis of the moderators showed a greater effectiveness of FBT in treating food obsessions and compulsions.

A Review of Treatments for Adults with Anorexia Nervosa

A review written by Hay, Claudino, Touyz, and Abdul (2015) investigated the effectiveness of different forms of individual therapy for the treatment of adults with anorexia nervosa. The study included 10 trials in the literature, for a total of 599 subjects diagnosed with anorexia nervosa. The forms of therapy considered are the following: CBT, enhanced CBT (CBT-E), integrated therapies such as cognitive analytical therapy (CAT), IPT, Maudley model for treatment of adults with anorexia nervosa (MANTRA), focal psychodynamic therapy (FPDT), focal psychoanalytic therapy (FPT), feminist therapy, and other forms of individual therapy for anorexia nervosa. The authors implemented four types of comparisons. Results are summarized below: a) between specific individual psychological therapies and TAU. Several studies (Dare et al., 2001; Treasure et al., 1995) found that a specific form of psychotherapy, such as CAT or FPT, leads to better outcomes than TAU; b) between specific individual psychological therapies and a control therapy. In Zipfel et al. (2014) there were no differences between the two specific manual therapies CBT-E and FPDT, nor between the CBT-E and an a-specific specialized approach (optimized Tau). In McIntosh et al. (2005) SSCM did not show differences compared to CBT, although it proved to be better than IPT. In Serfaty et al. (1999), CBT was better than simple diet advice, which showed a 100% noncompletion rate; c) between specific individual psychological therapies and other forms of psychological therapies. In Zipfel et al. (2014) and Mcintosh et al. (2005) there were no significant differences in outcomes at the end of treatment and in follow-up, for CBT compared with IPT or FPDT. Also the trial by Lock et al. (2013) did not find significant differences in the outcomes between CBT-E and short CBT. Finally, Bachar et al. (1999) found significantly better results for “self-psychology therapy” than “cognitive orientation therapy”; d) between a specific individual psychological therapy and a waiting list control group. The trial by Bergh, Brodin, Lindberg, and Södersten (2002) found the highest treatment effectiveness, but included only 19 participants. In this paper statistical measures and study samples size were considered and it concluded by stating that FPDT seems to be superior to TAU. This would emerge from the study of the most conspicuous sample (Zipfel et al., 2014), which included a total of 242 subjects. A recent publication (Friederich et

al., 2017) implements the results of a study previously cited (Zipfel et al., 2014). The authors focused on the emotional dimension of patients diagnosed with anorexia nervosa, hypothesizing that a better expression of emotions in these patients can predict and favor the outcome. The authors start from the evidence that this type of patient typically shows emotional avoidance, emotional dysregulation, and reduced emotional expression (Brockmeyer et al., 2012; Davies et al., 2016), whereas good emotional processing during psychotherapy has proven positively associated with a reduction in symptoms (Watson & Bedard, 2006). In Zipfel et al. (2014), subjects were randomized into two groups, which received 40 sessions of FPDT or CBT-E. The sessions were recorded, linguistically analyzed, and divided by phases (initial-early-mid-late-phase) and by type of expressed emotions (positive or negative). A hierarchical multiple regression analysis performed on the linguistic variables that emerged discovered that expression of negative emotions predicted BMI at the end of the treatment. In addition, a good expression of these emotions predicted the percentage of psychopathology of ED assessed by observers at the end of treatment. These results corroborate the authors' hypothesis, in line with other studies (Watson & Bedard, 2006), according to which there is a strong correlation between emotional processing and outcome of therapies.

A Study by Byrne and Colleagues

A recent randomized controlled trial written by Byrne et al. (2017) compared three different treatment models for anorexia nervosa — SSCM, MANTRA, and CBT-E — with the hypothesis that the CBT-E and MANTRA could be superior to SSCM. The authors involved 557 subjects diagnosed with anorexia nervosa, who were offered 25-40 sessions of 50 minutes, distributed over a period of 10 months. Results showed that all three treatments were positively accepted by participants, also showing improvements in terms of weight (assessed according to the BMI) and psychopathology associated with the ED, also maintained in the evaluation of the follow-up, up to 12 months later. No significant differences emerged between the three different treatments in relation to the change in the BMI at the end of treatment, in percentage of symptomatic remission, or in percentage of subjects with normal scores calculated using the Eating Disorder Evaluation Scale (EDES; global subscale) one year later. Psychosocial dysregulation improved and was reduced in all three cases.

A Temperament-Based Treatment (TBT) for Anorexia Nervosa

Kaye et al. (2015) proposed a study on the TBT for anorexia nervosa. A large number of scientific research has in fact shown the existence of a typical temperament in anorexic subjects, which would be neurobiological based and characterized by anxiety, poor sensitivity to reward, altered interceptive awareness, rigidity, and cognitive inflexibility (Anderluh, Tchanturia, Rabe-Hesketh, & Treasure, 2003; Cassin & Von Ranson, 2005; Fassino, Piero, Gramaglia, & Abbate-Daga, 2004; Harrison, O'Brien, Lopez, & Treasure, 2010; Hartcour, et al. 2018; Kaye et al., 2004; Lilenfeld, 2011; Lilenfeld, Wonderlich, Riso, Crosby, & Mitchell, 2006; Wagner et al., 2006). These temperamental traits, for which is found the activation of individual neural circuits, seems to be implicated in the development and maintenance of the ED (Kaye & Bailer, 2011; Kaye, Wierenga, Bailer, Simmons, & Bischoff-Grethe, 2013). More specifically, the anxious trait would lead individuals with anorexia to refuse food to try to counteract anxiety resulting from food intake. For this reason, TBT would be a valid form of therapy for this disorder: it aims to teach the

subjects and who takes care of them to recognize these temperamental patterns, encourage the development of behaviors suitable for change, to learn coping skills, and manage their temperament.

Conclusion

A number of important elements worthy of consideration emerged from articles included in this review. The need to review and expand the classification criteria of EDs was highlighted, in order to reflect the clinical situation and to facilitate research and treatment (Fairburn & Harrison, 2003).

Cognitive-behavioral therapies have received support evidence from numerous studies in literature, sometimes foreshadowing as an elective treatment for some disorders (bulimia nervosa), sometimes as valid substitutes for other forms of therapies (Dalle Grave et al., 2013). Numerous studies have defined CBT as an elective treatment for bulimia nervosa (Fairburn & Harrison; Murphy et al., 2010; Wilson et al., 2007). Psychodynamic treatments have also received empirical support, especially for anorexia nervosa, although it is essential to broaden research in this field (Abbate-Daga et al., 2016; Lechsenring et al., 2015). Some authors stated the superiority of a specific form of psychodynamic therapy, the FPDT.

Family-based therapies (FBT) have been investigated by numerous studies, which found that FBT is valid, sometimes with a higher efficacy than TAU (Fisher et al., 2010), especially in follow-up (Le Grange et al., 2007; Lock et al., 2010; Schmidt et al., 2007;). Multi-family therapy also appears to be a valid alternative to FBT (Dare & Eisler, 2000). From a combination of classical FBT, systemic-familial therapy, and parent-coaching promising results also derive (Rockwell et al., 2011). Other studies have investigated alternative forms of ED treatment, such as SSCM, MFT (Allen et al., 2012), TBT (Kaye et al., 2015), and MANTRA, which have proved equal in terms of efficacy in anorexia nervosa (Byrne et al., 2017; Schmidt et al, 2015). It is interesting to note that the same efficacy rates were found often comparing different type of therapies, which suggests that some factors common to various psychological therapies may play a fundamental role in EDs treatment.

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