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Anorexia nervosa and childhood sexual abuse: Treatment outcomes of intensive enhanced cognitive behavioural therapy

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ABSTRACT

Sexual abuse has been widely studied as a risk factor in anorexia nervosa, but data on its influence on treatment outcomes are scarce. Hence, we compared short- and long-term outcomes of inpatient enhanced cognitive-behavioural therapy (CBT-E) in patients with anorexia nervosa who had and had not suffered sexual abuse. Eighty-one patients were recruited, and body mass index (BMI), Eating Disorder Examination, Brief Symptom Inventory, and Work and Social Adjustment Scale scores were recorded before and after treatment, and at 6- and 12-month follow-ups. Twenty patients (24.7%) reported experiencing childhood sexual abuse before anorexia nervosa onset, while 61 (75.3%) reported none. Both groups displayed similar characteristics before treatment, and similarly large increases in BMI, eating-disorder, general psychopathology, and work and social functioning from baseline to 12-month follow-up. Based on these findings, childhood sexual abuse does not appear to compromise outcomes in patients with anorexia nervosa treated via intensive CBT-E.

1. Introduction

The role of sexual abuse in the development of eating disorders has been extensively studied, and recent systematic reviews (Caslini et al., 2016; Madowitz et al., 2015) have suggested that it is a potential risk factor for psychiatric illness in general, but not specifically for eating disorders (Steiger and Zanko, 1990; Thompson and Wonderlich, 2004; Welch and Fairburn, 1994; Wonderlich et al., 1997). That being said, studies have reported a link between a history of sexual abuse and an increase in the severity of anxiety, depression and obsessive-compulsive symptoms (Anderson et al., 1997; Carter et al., 2006; Lockwood et al., 2005), and others have found that sexual abuse is associated with more severe eating disorder psychopathology (Carter et al., 2006; Fullerton et al., 1995). Sexual abuse has also been correlated with the presence of binge-eating and purging episodes in patients with anorexia nervosa and bulimia nervosa (Carter et al., 2006; Castellini et al., 2013; Waller et al., 1993), but the relationship between a history of sexual abuse and treatment outcomes in patients with eating disorders requires clarification. Indeed, the application of different methodologies, treatment procedures, and outcome variables in the studies conducted to date prevents us from drawing firm conclusions, as results have been conflicting.

For example, one study of patients hospitalized for bulimia nervosa found that those with a history of sexual abuse had higher levels of eating disorder behaviours as compared to those who did not, even after treatment. Patients who had experienced sexual abuse were also more frequently re-hospitalized after three months of follow-up (Anderson et al., 1997). Moreover, another study, investigating differences in attrition rates between anorexia sub-types, found that patients with binge-purge sub-type anorexia nervosa and sexual abuse in their childhood were significantly more likely to terminate their treatment prematurely than the other patient sub-types with a similar history (Carter et al., 2006). This, however, contrasts with findings from a study with a longer-term follow-up period, in which no association between a history of sexual abuse and the likelihood of recovery from eating disorders was found (Luadzers, 1998).

These conflicting findings do not enable us to conclude whether or not a history of sexual abuse and related negative effects influence the outcome of anorexia nervosa and should therefore be addressed directly by treatment for this eating disorder. In order to shed more light on this issue, we set out to assess the short- and long-term outcomes of patients with anorexia nervosa with and without a reported history of childhood sexual abuse, both treated via the inpatient version of enhanced cognitive behavioural therapy (CBT-E), a treatment that targets the mechanisms maintaining eating disorder psychopathology, but does not specifically address sexual abuse.

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2. Methods

2.1. Participants

The sample comprised 81 consecutive admissions to the inpatient eating disorder unit of Villa Garda Hospital in northern Italy for the treatment of anorexia nervosa. Patients are referred to the unit by secondary care health professionals (i.e., general psychiatrists, eating disorder specialists, Italian National Health Service outpatient eating disorder units, and acute internal medicine departments) and family doctors from all over Italy. Those accepted for inpatient treatment have previously experienced outpatient treatment failure, or have an eating disorder that cannot not be managed safely on an outpatient basis. Patients eligible for this study were 16–45 years of age, and judged to meet the DSM-5 diagnostic criteria for anorexia nervosa (APA, 2013) by both the referring clinician and an in-house eating disorder specialist (R.D.G.).

Twenty-three (19.5%) of the 118 patients assessed for eligibility were excluded due to the low severity of their eating disorder, while 5 of the remaining 95 (5.3%) were excluded due to significant substance misuse (n = 3) or an acute psychotic state (n = 2). A further nine (9.5%) declined to participate in the study, leaving a total of 81 (85.3%) of those eligible in the sample. All subjects gave informed written consent to their participation and to the anonymous use of their personal data, and the study was approved by the ethics committee of the Local Health Unit (22-Bussolengo).

2.2. Inpatient treatment protocol

The treatment administered has been adapted from CBT-E for eating disorders (Fairburn, 2008) to make it suitable for an inpatient setting. It comprises a fixed term of 20 weeks of individual and group sessions, delivered over 13 weeks of inpatient treatment followed by 7 weeks of day hospital. The programme is based on the main procedures and strategies of outpatient CBT-E, but differs in that meals are assisted by dieticians in the first weeks of the inpatient stage, as described in detail by Dalle Grave (2013). No psychotropic medications were prescribed as part of the treatment, and during the first 2 weeks of hospitalization patients were gradually weaned off any being taken at admission, under the careful supervision of the clinic's staff. As recommended by the CBT-E protocol, sexual abuse is recognised, but not specifically addressed as part of the treatment.

2.3. Assessment and measures

Data collection took place in the first week of admission to the inpatient unit, in the last week before discharge from the day-hospital stage, and at 6- and 12-month follow-ups.

2.3.1. Demographic and clinical variables

Demographic and clinical variables were obtained through direct interview, during which subjects were weighed on calibrated scales, and their height measured using a stadiometer. Weighing and measuring was performed with the patients wearing only underwear and no shoes, and these measurements were then used to calculate the body mass index (BMI) via the standard formula of body weight in kilograms divided by height in meters squared.

2.3.2. Psychopathology measures

The validated Italian version of the 12th edition of the Eating Disorder Examination interview (EDE) (Calugi et al., 2015; Fairburn et al., 2008), administered by trained assessors with no further involvement in the treatment, was used to assess the psychopathological features of the patients' eating disorder, while the validated Italian version of the Brief Symptom Inventory (BSI) (De Leo et al., 1993; Derogatis and Melisaratos, 1983), a short version of the Symptom Checklist-90 (Derogatis and Cleary, 1977), was used to assess their general psychopathology. The Work and Social Adjustment Scale (WSAS) was used to assess the patients' work and social functioning (Mundt et al., 2002).

2.3.3. Definition and assessment of sexual abuse

The investigator-based interview developed by Welch and Fairburn (1994) was used to assess the sexual abuse that had occurred prior to the onset of the eating disorder (Carter et al., 2006). This was considered as any non-consensual sexual experience involving physical contact or exposure, i.e., whether or not the patient had suffered indecent exposure, touched or been forced to touch the abuser in any sexual way. Some examples questions used in the interview to gather information on sexual abuse history were: "*Has anyone ever exposed themselves to you, or masturbated in front of you?*"; "*Has anyone ever touched you in a sexual way, or tried to make you touch them, against your will*"; "*Has anyone ever had intercourse with you against your will?*". If the subjects reported that at least one of these experiences had occurred prior to the onset of their eating disorder and before they reached 18 years of age, they were considered to have experienced childhood sexual abuse.

2.4. Statistical analysis

Twenty (24.7%) of the patients reported events that met the above criteria for childhood sexual abuse, while 61 (75.3%) reported no such events. The differences between the two groups at baseline were evaluated using the *t*-test or chi-squared test, as appropriate, and Cohen's *d* was used to calculate the effect sizes (classification of effect size: Cohen's *d*: 0.2 small, 0.5 medium, 0.8 large) for ease of interpretation (Cohen, 1988; Kazis et al., 1989). Growth-curve modelling, wherein outcomes at all four time-points were considered dependent variables, was used to evaluate the different effects of inpatient CBT-E on each outcome (BMI, global EDE, BSI and WSAS scores) at the end of treatment and at 6- and 12-month follow-ups in groups with or without childhood sexual abuse. Variables that significantly differed between the two groups at baseline were included in the model as confounding variables, and a dummy variable to account for the differences between the two groups was among the fixed parts of the model. These also included the two groups, a time variable, and variables to express the changes in the two groups over time (group × time interaction).

As the whole model, including both fixed and random effects, was the object of the analysis, models were compared using maximum likelihood estimation (rather than restricted maximum likelihood estimation), which was used to estimate a two-level model in which time was nested within individuals. As quadratic and cubic parametric forms readily accommodate the missing data patterns commonly seen in longitudinal studies, these were modelled in order to determine the slope of change over time (Shek and Ma, 2011; Singer and Willett, 2003). This approach enabled the inclusion of all data collected in the study, and, by adopting the assumption of missing-at-random, the retention of subjects for whom data was unavailable at one or more time points.

In order to evaluate the effect of work and social functioning on outcome in the two groups, the global WSAS score at baseline was included in the models as potentially related to trajectories of change in BMI and global EDE and BSI.

Continuous variables were categorized as means (SD), while categorical variables were categorized as frequencies and percentages. All statistical analyses were performed using SPSS software (IBM SPSS Statistics, version 23.0).