Dreaming and Eating Disorders

Michael Schredl, Ph.D., and Alyaa Montasser, Ph.D.

The present article briefly reviews the literature on dreaming in eating disordered patients. Findings which were reported so far are an increased occurrence of the food and eating theme, body distortion and the death theme, all of which were nonhomogeneous. Content analysis was carried out in order to compare dreams of 29 patients (anorexia nervosa and bu-limia nervosa) with age and sex-matched controls. Anorexics dreams revealed a pattern of food rejection, relationshiplessness and a rejection of the feminine role whereas bulimics showed an increased amount of food and eating dreams in general and their dreams were more negatively toned. The findings are discussed in light of the continuity hypothesis which entails that waking life is reflected in dreams. In the present case, different waking-life symptomatologies are reflected in the dreams of the two eating disordered groups anorexia and bulimia nervosa. These findings also indicate that dreams may have a potential benefit not only in the diagnosis of eating disorders but also in its therapy. (Sleep and Hypnosis 1999;4:225-231)

Key words: dream recall, dream content, eating disorders, anorexia nervosa, bulimia nervosa

INTRODUCTION

A variety of empirical studies investigated the dream life of different psychopathologi-cal patient groups in order to shed more light on the inner processes taking place in these pa-tients and possibly find clues as to underlying etiological mechanisms (Overview: 1,2). The basic assumption underlying these studies is the so-called continuity hypothesis which entails that waking life occurrences and/or preoccupations are reflected in dreams (3). Riemann and coworkers (4), for example, found the dream emotions of depressed outpatients to change within a four-week treatment with trimipramin from predominantly negative to more positive.

Back in 1937, Weizs cker (5) first reported on the dreams of two anorexic patients. The main themes of these dreams were death, body distortion prior to craving days (i. e., bulimic episodes) and well-being and religious figures prior to non-appetite days (i. e., re-strictive episodes). This in turn is a clear reflection of the negative attitude toward food-intake characterizing these patients. In contrast, Jackson et al. (6), who reanalyzed Weizs cker s reports, found death imagery to exist in both dream samples and also pointed out that the mortality rates of such patients were still high and therefore death and/or mortality issues con-tinued to be of concern to them and thus invariably figured in their dreams.

After this initial report various other aspects concerning dreams of the eating disor-dered were investigated-primarily the occurrence of the food theme in their dreams. Hudson et al. (7), Phelippeau et al. (8), Frayn (9) and Salorio et al. (10), found as a result of dream content analysis, an increased occurrence of food in anorexics dreams. These findings were interpreted as reflecting the intense preoccupation with food and eating in this group s waking life. An extensive study (11) which was carried out by eliciting dreams in the sleep laboratory, however, could not confirm the previously found results. Another element of investigation was body distortion in dreams as reflecting a disturbed body-shape perception often charac-terizing anorexics. Frayn (9) and Brink and Allan (12) found such elements to occur in their dream samples, e. g., dreaming of an enlarged belly. A preponderance of negative dream emo-tions and negative dream themes was also reported by Frayn (9), Brink and Allan (12) and Brink, Allan and Boldt (13) which, in turn, was interpreted by Brink and Allan (12) as an ex-pression of self-hate, rage and an inherent inability to develop a self-nourishing/nurturing atti-tude.

Two further studies (14, 15) revealed a higher intensity level in anorexics dreams than in those of controls. Phelippeau et al. s (8) initial finding of an

From the Sleep Laboratory, Central Institute of Mental Health, Mannheim

Address reprint requests to: Michael Schredl, Ph. D., Schlaflabor, Zentralinstitut f r Seelische Gesundheit, Postfach 12 21 20, 68072 Mannheim, Germany;
e-mail: Schredl@as200.zi-mannheim.de

Accepted August 21, 1999

increased level of aggression in anorexics dreams could not be confirmed by Hudson et al. (7), Salorio et al. (9) and Majer-Trendel (11). Yet another interesting aspect examined by Enke, Ohlmeier and Nast (14) is the interaction of the dreamer with other dream persons. Accordingly, anorexics dreams were characterized by relationshiplessness and a refusal and/or rejection of the feminine role, i. e., the dreamer is often alone, there are less male dream persons and the dreamer s parents are often present in their dreams. These findings were interpreted by the authors as a refusal and/or rejection of the feminine role and the development into womanhood.

In comparison to anorexic patients dreams, Dippel et al. (16,17) found a higher occur-rence of the food theme and negative emotions in bulimics dreams. This was confirmed by Majer-Trendel (11) who compared laboratory dreams of bulimic patients with those of healthy controls. No further controlled studies concerning dreaming in bulimic patients have been reported in the literature. Levitan (18), however, reported several cases in which negative dreams sometimes directly led to binge eating.

To summarize the research carried out hitherto, most findings fit in the continuity hy-pothesis framework, i. e., dream content does indeed reflect the waking life symptomatology observed in this patient group. Some of the contradictory results may be due to methodologi-cal issues such as small sample size (e. g., n = 3; 7), inadequate age-matching, lack of a control group (e. g., 8,14) or use of dreams elicited by REM awakenings (11,16,17,19) since these dreams are often influenced by the experimental setting. Strauch and Meier (20), for example, were able to show that up to 50 % of laboratory dream reports were at least partially charac-terized by the experimental setting, e. g., electrodes, presence of an experimenter, lab sur-roundings. The aim of the present study is to compare diary dreams of anorexic and bulimic pa-tients to those of age and sex-matched healthy controls and to look for different dream pat-terns in these patient groups.

METHOD

Participants

Twenty-nine patients with eating disorders participated in the study. The mean age was 20.90 – 6.02 yrs. (range: 13 to 37 yrs.). Of the 29 patients 28 were female, 17 were ano-rexic (mean age: 17.47 – 4.14 yrs., 13 to 25 yrs.) and 12 bulimic (mean age: 25.75 – 4.85 yrs.; 17 to 37 yrs.). The patient population stems from three different sources: 12 were inpatients of an open psychiatric ward, 8 were outpatients undergoing individual and/or group psycho-therapy at a private clinic and 9 patients were recruited from high school/university in Cairo/Egypt. The first two groups were diagnosed according to DSM IV criteria (21) with the third group satisfying the most relevant criteria as regards anorexia and bulimia nervosa. Nine patients were on medication at the time of study: 5 were receiving antidepressants, 4 benzodi-azepines and 2 neuroleptics.

The healthy control subjects were sex and age-matched (– 1 yr.) with a mean age of 20.83 – 5.65 yrs. (range: 13 to 36 yrs.). One group (n = 10) was recruited from the investiga-tor's milieu whereas the other (n = 19) made up part of the control group in another study carried out by Schredl (22).

Overall 76 dream reports were obtained from 24 patients who completed the dream di-ary (range: 2 to 5 dreams per patient, except for one person reporting 9 dreams). These dreams were then matched with those of 24 sex and age-matched controls.

Materials

Dream questionnaire/interview. The interview and questionnaire are made up of similar items as regards age, sex, dream recall frequency (DRF) prior to the study (ranging from sev-eral times a week (= 5) to not at all (= 0)), content and frequency of childhood nightmares, the most recent dreams, repetitive dreams and attitude towards dreams. For the purpose of the present analysis only age, sex and DRF were included.

Dream diary. The dream diary is made up of instructions as to how to fill it in, a checklist for recording dream recall over a two-week period and five additional sheets of paper to report concrete dreams and indicate dream emotions by means of two four-point rating scales (positive and negative emotions: 0 = none, 1 = some, 2= moderate, 3 = strong). Diary dream recall was measured as the number of mornings in which one or more dreams were re-ported. The medians for positive and negative dream emotions were computed for each diary.

Dream content analysis. The manual constructed for the purpose of this study fol-lows the format of Majer-Trendel (11), Schredl (22) and Schredl, Schr der, and L w (23). The general categories are made up of the following scales: realism (1=realistic to 4= several bi-zarre associations), positive and negative emotions - following the same format as the self-rating scales (see above), number of dream persons, number of males, aggression; the latter is divided into four groups: aggression directed at the dreamer vs. directed by the dreamer at others and verbal vs. physical aggression and lastly verbal and physical interaction.

As for the specific scales, these were adopted from Majer-Trendel s (11) work and re-vised for this study s purpose. They are composed of the following scales: occurrence of food and food rejection, taking (e. g., the dreamer grabs something), giving (e. g., the dreamer gives a present), death, achievement demands and lastly body changes (e. g., distorted body image, mutilated body parts). Most of the scales are bicategorial (i. e., yes/no scales) and score the presence or absence of the particular theme which the scale is designed to assess.

Procedure

Written consent was obtained from all participants.

The patients were interviewed by one of the authors and asked to complete the dream diary over a two-week period. The control subjects (except for five persons) received the dream questionnaire and dream diary with corresponding instructions.

Diary dream reports were typed out - with some of the healthy controls randomly excluded in order to obtain a matching number of dream reports - which were, in turn, blindly rated by a judge according to the dream manual. 50 dream reports were scored by a second rater in order to compute interrater reliability. ANCOVA or logistic regression was used to control for effects of a covariate in group comparisons. Dreams were considered as almost independent observations since Schredl (24) has shown that the intercorrelations of dream content scale scores between two different diary dreams are quite small.

RESULTS

Dream Recall and Dream Diary

Dream recall frequency (DRF) measured by the questionnaire and dream diary is sig-nificantly lower in the patient group, especially diary DRF in bulimic patients (see Table 1). Whereas self-rated positive dream emotions were almost equally pronounced in the patient and control group, negative dream emotions were more prominent in both patient groups, es-pecially bulimics.

Dream Content Analysis

Interrater reliability. Exact agreement for the nominal scales ranged between 96 % and 100 %, except for verbal interaction (88 %) and achievement demands (78 %). The correlations for the ordinal and interval scales ranged from r= .652 (realism) to r = .909 (number of dream persons) and were comparable to previous studies results (e. g., 23).

Eating disordered subjects vs. healthy controls. In Table 2 the main results of the dream content analysis are presented. Since dream length is significantly reduced in the patient group, additional statistical analyses with the covariate word count were carried out. As a re-sult of this procedure only one difference remained significant, i. e., food rejection in the dream. Other variables which are not depicted in the tables such as taking , giving and sub-categories of aggression did not reveal any substantial differences between the two groups.

Anorexics vs. healthy controls. Anorexic patients showed a certain expected pattern in their dreams which depicted more food rejection than food and eating per se, a fewer number of males, less verbal interaction and a fewer number of dream persons (see Table 3).

Bulimics vs. healthy controls. In contrast to the anorexic group s dreams, bulimics' dreams revealed significantly more food-related themes but not a rejection of food (see Table 4). As expected, positive dream emotions were less evident and negative ones were more pro-nounced in bulimics dreams. The reduced number of dream persons is mainly due to differing dream lengths.

Dream Examples

The following dream reports displaying the food and eating theme are presented in or-der to exemplify the results of the content analysis:

"When the big mid-day meal arrived upstairs it was not wrapped up sepa-rately for each patient with anorexia but was in one large bowl. Each one has to take one part so that everyone gets the same amount. Of course everyone took less and I got the biggest part. This was so stupid because this part had the most calories in it. The supervisors did not believe me when I said that is too much but then I did not eat it." (girl, 13 yrs., anorexia nervosa)

"I dreamt that a huge chocolate cookie, probably about a thousand times bigger than me, was running after me. It had arms and legs and was running very fast to catch me. I kept running trying to escape from it but the cookie was too fast. It caught up with me and jumped on me and I was lying flat underneath it with only my head sticking out and my arms reaching out for help." (woman, 25 yrs., bulimia nervosa)

"My mother invited the whole family for dinner. The table was so full that I did not know where to start. Very big cakes, ice-cream, 'basboussa' and other colorful dishes were also offered. It was somebody's birthday but I could not re-member whose. The celebration, however, was very nice." (woman, 34 yrs., healthy control subject)

Table 1. Dream Recall Frequency (DRF Questionnaire and Diary) and self-reported dream emotions (Medians)

	AN+BN (n=29)	Controls	Anorexia (n=17)	Controls	Bulimia (n=12)	Controls
DRF (Ques.)	3.62 – 1.27[2]	4.21 – 0.89	3.64 – 1.32	4.35 – 0.70	3.58 – 1.24	4.25 – 1.14
DRF (diary)	2.75 – 1.03[4]	5.33 – 2.70	2.50 – 1.02[1]	4.36 – 2.59	3.10 – 0.79[4]	6.70 – 2.31
Pos. emotions	1.16 – 0.88	0.98 – 0.84	1.15 – 0.69	1.08 – 0.93	1.16 – 1.15	0.83 – 0.71
Neg. emotions	1.52 – 0.98[2]	1.05 – 0.87	1.38 – 0.82	1.12 – 0.82	1.72 – 1.201	0.94 – 0.98
Intensity	2.68 – 0.99[2]	2.02 – 0.96	2.54 – 0.96	2.19 – 1.01	2.89 – 1.193	1.78 – 0.87

(AN = Anorexia nervosa; BN = Bulimia nervosa)
(Due to missing values, n=24 dream recall diary and n=22 dream emotions)
[1] $p < .10$, [2] $p < .05$, [3] $p < .01$, [4] $p < .001$ (comparison to healthy controls)

Table 2. Dream content of patients with eating disorders vs. healthy controls

Variables	Eating Disordered (n=76)	Controls (n=76)	Statistical tests (1)	(2)
Mean word count	72.0 – 59.6	113.4 – 100.8	p < .01	
Realism	1.78 – 0.72	1.83 – 0.62	ns.	ns.
Pos. emotions	0.72 – 1.07	0.76 – 0.99	ns.	ns.
Neg. emotions	1.44 – 1.16	1.43 – 1.04	ns.	p < . 10
Dream persons	1.63 – 1.35	2.61 – 2.30	p < .01	ns.
Number of males1	0.38 – 0.61	0.82 – 1.09	p < .01	p < . 10
Parents	13.2 %	13.2 %	ns.	ns.
Verbal interaction	39.5 %	59.2 %	p < .05	ns.
Phys. interaction	15.8 %	10.5 %	ns.	ns.
Aggression (total)	14.5 %	22.4 %	ns.	ns.
Food	23.7 %	19.7 %	ns.	ns.
Food (rejected)	44.4 % (n=18)	6.7 % (n=15)	p < .05	p < .05
Achievement demands	47.4 %	55.3 %	ns.	ns.
Body changes	1.3 %	4.0 %	ns.	ns.
Death	10.5 %	11.9 %	ns.	ns.

Statistical tests: (1) t-test, Mann-Whitney-U-test, c^2-Test, (2) ANCOVA or logistic regres-sion with covariate word count
[1] ANCOVA with covariate number of dream persons

Table 3. Dream content of patients with anorexia nervosa vs. healthy controls

Variables	Anorexia (n=39)	Controls (n=39)	Statistical tests (1)	(2)
Mean word count	81.5 – 68.3	104.9 – 90.8	ns.	
Realism	1.92 – 0.70	1.90 – 0.60	ns.	ns.
Pos. emotions	0.77 – 1.14	0.49 – 0.79	ns.	ns.
Neg. emotions	1.38 – 1.14	1.38 – 1.02	ns.	ns.
Dream persons	1.95 – 1.45	2.69 – 2.02	p < .05	p < .10
Number of males1	0.33 – 0.58	0.82 – 0.97	p < .01	p < .01
Parents	20.5 %	15.4 %	ns.	ns.
Verbal interaction	41.0 %	64.1 %	p < .05	p < .05
Phys. interaction	7.7 %	7.7 %	ns.	ns.
Aggression (total)	18.0 %	25.6 %	ns.	ns.
Food	15.4 %	23.1 %	ns.	ns.
Food (rejected)	66.7 % (n=6)	0.0 % (n=9)	p < .01	---[2]
Achievement demands	41.0 %	51.3 %	ns.	ns.
Body changes	0.0 %	5.1 %	ns.	ns.
Death	15.4 %	12.8 %	ns.	ns.

Statistical tests: (1) t-test, Mann-Whitney-U-test, c^2-Test, (2) ANCOVA or logistic regres-sion with covariate word count
[1] ANCOVA with covariate number of dream persons
[2] logistic regression not computed due to small sample size

Table 4. Dream content of patients with bulimia nervosa vs. healthy controls

Variables	Bulimia (n=37)	Controls (n=37)	Statistical tests (1)	(2)
Mean word count	62.0 – 47.9	122.1 – 111.0	p < .01	
Realism	1.65 – 0.60	1.76 – 0.64	ns.	ns.
Pos. emotions	0.68 – 1.06	1.05 – 1.10	p < .05	p < .05
Neg. emotions	1.72 – 1.16	1.49 – 1.07	ns.	p < . 10
Dream persons	1.30 – 1.15	2.51 – 2.60	p < .05	ns.
Number of males[1]	0.43 – 0.65	0.81 – 1.22	ns.	ns.
Parents	5.4 %	10.8 %	ns.	ns.
Verbal interaction	37.8 %	54.1 %	ns.	ns.
Phys. interaction	24.3 %	13.5 %	ns.	ns.
Aggression (total)	10.8 %	18.9 %	ns.	ns.
Food	32.4 %	16.2 %	p < .05	p < .05
Food (rejected)	33.3 % (n=12)	16.7 % (n=6)	ns.	---[2]
Achievement demands	54.1 %	59.5 %	ns.	ns.
Body changes	2.7 %	2.7 %	ns.	ns.
Death	5.4 %	10.8 %	ns.	ns.

Statistical tests: (1) t-test, Mann-Whitney-U-test, c^2-Test, (2) ANCOVA or logistic regres-sion with covariate word count
[1] ANCOVA with covariate number of dream persons
[2] logistic regression not computed due to small sample size

DISCUSSION

The present results support the largely accepted continuity hypothesis of dreaming (3) and, in particular, the assumption that psychopathology evident in the waking state is reflected in dreams (1,2).

The low dream recall frequency in both patient groups may be explained by several factors. Riemann et al. (4) and Schredl (25), for example, have shown that severe depression is accompanied by low dream recall. Since depressive symptoms are common in eating disorders (21), including a depression variable in future studies would be of additional value. Second, Whitman et. al. (26) and Schredl et al. (27) reported that tricyclic antidepressants reduce dream recall frequency in healthy controls and patients with insomnia and, since several patients (n = 5) received such antidepressants, this would make up yet another factor worth investigating in a larger sample. The third factor which could have influenced DRF may have been a rather biased sample of control subjects who were all volunteers and, therefore, proba-bly a priori high recallers and thus unrepresentative of their age group.

The differences between the patient group as a whole and the healthy controls turned out to be very small when dream length was partialled out. This is in line with Majer-Trendels (11) findings which showed almost no difference between eating disordered subjects and healthy controls.

More promising are the separate comparisons between each group of eating disorders and control subjects. In anorexic patients dreams it is not the food theme per se that occurs more often but the food-rejecting behavior. This supports the qualitative impressions of Ham-burger (28) and Phelippeau et al. (8) who, on one hand, found increased dreams about food but, on the other, no evidence of active eating, e. g., cooking meals for others. This fact may explain the non-homogeneous findings as regards the frequency of the food theme in dreams (e. g., 7, 11). The second pattern detectable in anorexics dream content is the fewer number of dream persons, especially males, and the low amount of verbal interaction. This confirms Enke, Ohlmeier and Nasts (14) findings and may point to a tendency towards social with-drawal and isolation in these patients and a rejection of development into womanhood. Studies eliciting explicitly these two waking behavior patterns and relate them directly to dream con-tent will be of interest. Other differences between the patients and controls dreams which were reported in the literature such as an increased intensity of dream emotions, dream ag-gression and achievement demands - were not found in this study. No dreams with particular reference to body changes appeared in the present sample which may be a consequence of the very infrequent occurrence of this dream theme in general. Using a broad definition for the death scale, about 15 % of the dreams of patients with anorexia contained such elements, but this frequency did not exceed that of the controls dreams. A recent publication of four case reports (29) revealed that death themes as first reported by Weizs cker (5) are still present in the dreams of some patients. Since at least three of them suffered also from depression and Schredl and Engelhardt (30) have found a strong relationship between severity of depressive moods and the occurrence of death themes in dreams of depressed patients, death themes in anorectic patients may not directly related to the high mortality of the illness but to the accompanying symtomatology of depression.

Bulimics dreams clearly reflect another pattern than anorexics : they are more intense (self-rating), contain less positive emotions, increased negative emotions (external rating) and more references to food than dreams of healthy controls. This provides a confirmation of Ma-jer-Trendels (11) findings and partly of Brink and Allans (12) concerning negative dream emotions. Such a trend is most likely a reflection of the depressive mood and low self-esteem common in these patients (21). The intense dream affect may be explained by the loss of con-trol which often plays an important role during a binge-eating attack. As for a specific dream pattern denoting social isolation, this was not evident in this patient group. The different re-sults obtained so far for each group of eating disordered patients should encourage further re-search on anorexia nervosa and bulimia nervosa as separate entities. Additionally, it may be promising to investigate subtypes of anorexia nervosa (restricting type, binge-eating/purging type) and/or bulimia nervosa (purging type, non-purging type).

Dippel et al. (19) who carried out a single-case longitudinal study with an anorexic pa-tient pointed out that dreams can change dramatically during the course of therapy, e. g., oc-currence of the food and eating theme. It would hence be of utmost value to investigate dream series of patients with eating disorders starting from the early signs of their symptomatology in order to better explain the non-homogeneous findings in the literature. In the present sample patients were in the last phase of their in-hospital and/or psychotherapeutic treatment pro-gram which, in turn, may explain the low frequency of illness-related themes such as body changes in their dreams. Apart from that, the present findings quite systematically revealed typical dream themes in such patient groups, e. g., food rejection in anorexics and negative affect in bulimics. Considering the heterogeneity of the present sample (inpatients, patients undergoing psychotherapy, Egyptian eating disordered subjects) one should be careful about drawing any general conclusions based on these findings until further investigations in larger-scale studies are carried out.

The fact that dreams directly reflect patients waking concerns makes them indeed use-ful for psychotherapy as has been shown in many case reports (31-35; C. G. Jung cited in 36). Additionally, Majer-Trendel (11) reports that the intensification of dream recall by the REM-awakening technique (weekly, about ten nights) was shown to have positive therapeutic effects on two patients. The therapeutic value of dreams in eating disorders and in psychiatric disorders in general clearly remains as yet an open and challenging field for future research.

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