

Sexual Abuse in Eating Disorder Subtypes and Control Women: The Role of Comorbid Substance Dependence in Bulimia Nervosa

Amy L. Deep,¹ Lisa R. Lilenfeld,¹ Katherine H. Plotnicov,¹ Christine Pollice,¹ and Walter H. Kaye^{1,2*}

¹ Eating Disorders Module, Western Psychiatric Institute and Clinic, University of Pittsburgh, Medical Center, Pittsburgh, Pennsylvania 15213

² Department of Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania

Accepted 2 September 1997

Abstract: Objective: *The relationship between sexual abuse and eating disorders remains uncertain. Recent data have raised the possibility of differential rates of sexual abuse among subtypes of eating disorders. Methods:* We studied women with three subtypes of eating disorders: (1) 26 anorexia nervosa subjects (AN); (2) 20 bulimia nervosa subjects with comorbid substance dependence (BN+SDD); and (3) 27 bulimia nervosa subjects without substance dependence (BN-SDD). We compared women with these eating disorder subtypes to 44 control women (CW). Sexual abuse rates and diagnoses were assessed through direct structured interviews. **Results:** We found an order effect for sexual abuse which was most common (65%) in BN+SDD subjects, followed by a rate of 37% in BN-SDD subjects and 23% in AN subjects. Subjects of all eating disorder subtypes had significantly higher rates of sexual abuse compared to a rate of 7% in CW subjects. **Discussion:** Women with BN+SDD had the highest frequency and the most severe history of sexual abuse. However, the causal relationship between eating disorders and sexual abuse remains to be elucidated. © 1999 by John Wiley & Sons, Inc. *Int J Eat Disord* 25: 1–10, 1999.

Key words: Sexual abuse; eating disorder subtypes; substance dependence

INTRODUCTION

Sexual abuse has been reported to occur in 30% to 65% of women with eating disorders (see reviews in Connors & Morse, 1993; Zerbe, 1992). Whether there is some specific association between sexual abuse and eating disorders is not clear (Coovert, Kinder, &

*Correspondence to: Walter H. Kaye, M.D., Western Psychiatric Institute and Clinic, 3811 O'Hara Street, Room E-722, Pittsburgh, PA 15213.

©1999 by John Wiley & Sons, Inc.

CCC 0276-3478/99/010001-10

Thompson, 1989; Connors & Morse, 1993; Pope & Hudson, 1992). That is, other psychiatric disorders are also associated with increased rates of sexual abuse ranging from 13% to 40% (Bryer, Nelson, Miller, & Krol, 1987; Carlin & Ward, 1992; Jacobson, 1989; Randall, Josephson, Chowanec, & Thyer, 1994). Thus, a high rate of sexual abuse may not be unique to eating disorders (Palmer & Oppenheimer, 1992; Welch & Fairburn, 1994; Vize & Cooper, 1995). In addition, rates of sexual abuse in the general population have been estimated to be between 10% and 30% (Connors & Morse, 1993).

It is well known that there are subtypes of eating disorders. One of the distinguishing characteristics across subtypes is the degree to which there are problems with impulse control (Vitousek & Manke, 1994). Thus, studies which have “lumped” eating disorder subtypes together may have obscured the nature of the relationship between sexual abuse and eating disorders (McClelland, Mynors-Wallis, Fahy, & Treasure, 1991; Waller, 1992). Among those studies that have looked at separate eating disorder subtypes, sexual abuse has been reported in 4% to 53% of women with anorexia nervosa (AN) and in 12% to 75% of women with bulimia nervosa (BN) (DeGroot, Kennedy, Rodin, & McVey, 1992; Hall, Tice, Beresford, Wooley, & Hall, 1989; Lacey, 1990; Oppenheimer, Howells, Palmer, & Chaloner, 1985; Palmer, Oppenheimer, Dignon, Chaloner, & Howells, 1990; Tice, Hall, Beresford, Quinones, & Hall, 1989; Waller, 1991, 1993). Several other studies found that sexual abuse was more prevalent among subjects with BN or among those with the presence of bulimic symptomatology (Everill & Waller, 1995; Stuart, Laraia, Ballenger, & Lydiard, 1990; Waller, 1992; Wonderlich, Fullerton, Swift, & Klein, 1994). This suggests that there may be a stronger link between sexual abuse and bulimic subtypes of eating disorders (BN and binge-eating/purging type AN) than between sexual abuse and restricting-type AN (Lacey, 1990; Rorty, Yager, & Rossoto, 1994a).

It has been suggested that bulimic women with “multi-impulsive” behaviors may be particularly likely to have experienced sexual abuse (Lacey & Evans, 1986; Lacey, 1993). These women engage in multiple impulsive behaviors, most notably substance abuse. Most studies of sexual abuse among women with eating disorders have analyzed those with BN as a single group. However, several studies have compared rates of substance use disorders among bulimic women with and without sexual abuse. Two such studies (Bulik, Sullivan, & Rorty, 1989; Rorty, Yager, & Rossoto, 1994b) found a trend toward higher rates of substance use disorders among bulimic women with a history of sexual abuse.

In summary, the frequency of sexual abuse among women with different subtypes of eating disorders remains uncertain. This may be related to studies having small sample sizes or not separating subjects into diagnostically pure subgroups (e.g., AN subjects may have included restricting as well as bingeing and purging anorexics). Moreover, many studies have not included a well-matched community comparison sample.

In this study, we compared rates of sexual abuse among women with three subtypes of eating disorders to women from the community who did not have an eating disorder. We studied pure restricting-type anorexics (no lifetime history of bingeing or vomiting) and two subtypes of BN women, those with and without a lifetime history of substance (alcohol and/or drugs) dependence disorder (SDD). It has been shown that BN women with SDD (BN+SDD) have more problems with impulse dyscontrol than BN women without SDD (BN-SDD; Suzuki, Higuchi, Yamada, Komiya, & Takagi, 1994; Bulik, Sullivan, Joyce, & Carter, in press; Lilenfeld et al., in press). Thus, we were able to compare women with a range of impulse control problems in this study.

METHODS

Subjects

All subjects were women, and included 26 who fulfilled DSM-III-R criteria for AN as outlined in the American Psychiatric Association's 3rd Rev. ed. of the *Diagnostic and Statistical Manual of Mental Disorders* (who also met criteria for DSM-IV restricting-type AN), 47 who fulfilled DSM-III-R criteria for BN (who also met criteria for DSM-IV purging-type BN), and 44 community control women (CW) with no history of an eating disorder. Of the 47 women with BN, 20 (43%) had a lifetime history of substance (alcohol and/or drug) dependence disorder (BN+SDD) and 27 (57%) had no such history (BN-SDD). All eating disorder subjects were recruited from the inpatient and outpatient eating disorders programs at Western Psychiatric Institute and Clinic and from advertisements in a campus newspaper. CW were recruited from a commercial mailing list and were matched by age and zip code to the eating disorder subjects. All subjects gave informed consent to participate in this study according to institutional guidelines.

Subjects with AN ranged in age from 16 to 39 years old (25 ± 6 years), had never engaged in any bingeing or vomiting behaviors, and had no prior history of BN. Since a sizeable number of anorexic women eventually develop binge eating, recruitment was limited to women who fulfilled diagnostic criteria for restricting-type AN for a minimum of 3 years prior to ascertainment. These criteria were employed to ensure that the AN group consisted of pure restrictors who would be less likely to later develop bulimic symptoms. Similarly, in order to obtain a pure bulimic group, subjects with BN must have had the onset of DSM-III-R criteria for BN at least 3 years prior to study entry and have had no history of AN. Subjects with BN ranged in age from 17 to 43 years old (25 ± 6 years). The two subgroups of BN did not differ significantly with respect to age.

CW subjects were selected to have never had a history of any diagnosable eating disorder or eating-disordered behavior. They ranged in age from 17 to 41 years old (26 ± 6 years). Potential CW subjects were excluded if they had a history of weighing less than 90% or more than 125% average body weight since menarche. Because CW were chosen to otherwise be a representative community sample, they were not screened for a lifetime history of any other psychiatric disorders, aside from an eating disorder, before entering the study.

Assessment

All subjects were directly interviewed face-to-face at the time of the study. Eighty-five percent of AN subjects were weight restored (i.e., above 85% of ideal body weight) at the time of interview. Because cognitive and emotional functioning at low body weight might have confounded the collection of reliable information, subjects were interviewed only after a psychiatrist (W.H.K.) judged them to have reasonably intact cognitive functioning.

Interviews were master's or doctoral-level psychologists with extensive experience in diagnostic assessment with structured interviews. The presence of a history of sexual abuse was assessed during the interview with a version of the Schedule for Affective Disorders and Schizophrenia-Lifetime (SADS-L; Endicott & Spitzer, 1978), modified by Merikangas and colleagues at Yale University to conform to DSM-III-R diagnostic criteria. Because the SADS-L does not include questions about sexual abuse, such information was obtained using an open-ended question during the posttraumatic stress disorder (PTSD) section of the SADS-L, in which the subject was asked, "Have you ever been sexually

traumatized, such as by rape, incest, or unwanted sexual touching?" If the subject acknowledged a history of such event(s), she was encouraged to elaborate as much as possible on the nature of the sexually related trauma and on the age(s) of occurrence. Information on history of sexual abuse was also obtained during the open-ended interview section of the SADS-L during which subjects were asked to give a brief outline of difficult time periods in their lifetime. SDDs were also assessed using this version of the SADS-L which conformed to DSM-III-R criteria.

In addition, approximately three fourths of all subjects' first-degree relatives were directly interviewed either face-to-face or by phone. These relatives also reported on whether, to their knowledge, the subject had been sexually traumatized and described the nature of the trauma. Interviewers were blind to all information about the proband and were not given any identifying data about the relatives. All decisions regarding the presence and nature of sexual abuse were rendered at weekly conferences where the interviewers, the reviewers, and the principal investigator were kept blind to the identity of the families. Thus, all sources of information from subjects and their relatives were utilized in determining the presence and nature of a history of sexual abuse. A similar team consensus approach utilizing all subject and relative interview information was also used to determine final diagnoses of substance dependence.

Data Analysis

Unadjusted rates of sexual abuse were compared for AN, BN+SDD, BN-SDD, and CW groups using a chi-square test with 3 *df*. In addition, two-group comparisons were performed using 2×2 chi-square tests. Fisher's exact test was used for those analyses in which expected cell frequencies were less than five. The age of onset for development of an eating disorder was compared to the age of occurrence of sexual abuse for the three eating disorder groups using matched *t* tests. The BMDP Statistical Software package (1988) was used for all data analyses.

Patterns of sexual abuse within each subject group were divided into three categories for descriptive purposes. Given the low frequencies of occurrence in many of the categories, no formal analyses were performed on these data.

RESULTS

Subject Characteristics

The four groups of subjects (**Table 1**) were of similar ages at the time of the study. AN, BN+SDD, and BN-SDD subjects had similar ages of onset of eating disorder. Predictably, subjects with AN weighed significantly less at the time of the study and had been at a lower percent body weight in the past compared to BN+SDD, BN-SDD, and CW subjects. In addition, in the past, BN+SDD subjects were at a significantly lower percent body weight compared to CW subjects. BN+SDD, BN-SDD, and CW subjects were at a significantly higher percent body weight in the past than AN subjects, and BN+SDD and BN-SDD subjects had a higher percent body weight in the past than CW subjects.

Rates of Sexual Abuse

There were significantly different overall rates of sexual abuse across the four subject groups ($\chi^2 = 25.1$, $p < .0001$) (**Table 2**). The two-group analyses revealed significantly

Table 1. Subject characteristics

	AN	BN-SDD	BN+SDD	CW	<i>F</i>	<i>p</i>
Number	26	27	20	44	—	—
Age at study (years)	25 ± 6	25 ± 6	25 ± 5	26 ± 6	$F_{3,113} = 0.42$	NS
Age at eating disorder onset (years)	16 ± 4	17 ± 3	16 ± 3	—	$F_{2,72} = 310.85$	NS
Percent IBW at study entry	90 ± 15 _a	109 ± 13 _b	103 ± 12 _b	108 ± 10 _b	$F_{3,113} = 13.71$	.0001
Lowest percent IBW	63 ± 11 _a	93 ± 8 _{bc}	89 ± 9 _b	95 ± 10 _c	$F_{3,113} = 70.11$	.0001
Highest percent IBW	102 ± 11 _a	119 ± 14 _b	118 ± 10 _b	109 ± 9 _c	$F_{3,113} = 12.94$	.0001

Note: Numbers with different subscripts differ at $p < .01$; numbers with the same subscripts do not differ significantly from each other. Each row represents a separate analysis of variance and pairwise comparison. IBW = ideal body weight (Metropolitan Life Insurance Company, 1959). AN = anorexia nervosa; BN-SDD = bulimia nervosa without a history of substance dependence; BN+SDD = bulimia nervosa with a history of substance dependence; CW = control women.

higher rates of sexual abuse among BN+SDD subjects compared to all other groups. Specifically, their rates were higher than the rates among CW subjects ($\chi^2 = 24.8, p < .0001$), AN subjects ($\chi^2 = 8.2, p < .01$), and BN-SDD subjects ($\chi^2 = 3.6, p < .03$). The BN-SDD group had significantly higher rates of sexual abuse than the CW group (Fisher's statistic = 9.8, $p < .01$). Similarly, the AN group also had significantly higher rates of sexual abuse than the CW group (Fisher's statistic = 3.7, $p < .03$). Overall, we found that the BN+SDD subjects had the highest rates of sexual abuse.

Type of Sexual Abuse

Table 3 summarizes the types of sexual abuse experienced by our subjects. One half of the BN+SDD women reported having been raped, which was the most common form of sexual abuse in this group. Incest was the most common form of sexual abuse among the BN-SDD women, with 19% having experienced incest. Fondling by a nonfamily member was the most common form of abuse among AN subjects. Fondling by a nonfamily member and incest were the types of abuse reported by our CW subjects.

The Relationship between Eating Disorder Onset and Sexual Abuse

Among the three eating disorder groups, there were no significant differences for the ages of eating disorder onset compared to ages of first sexual abuse (**Table 4**). However,

Table 2. Unadjusted rates (%) of sexual abuse among eating-disordered and CW women subjects

Subject Group	+SA	−SA	%
BN+SDD ($n = 20$)	13	7	65
BN-SDD ($n = 27$)	10	17	37
AN ($n = 26$)	6	20	23
CW ($n = 44$)	3	41	7

Note: BN+SDD = bulimia nervosa with a history of substance dependence; BN-SDD = bulimia nervosa without a history of substance dependence; AN = anorexia nervosa; CW = control women; +SA = history of sexual abuse; −SA = no history of sexual abuse.

Table 3. Unadjusted rates (%) of different types of sexual abuse among eating-disordered and CW subjects

Subject Group	Rape (%)	Fondling (%) ^a	Incest (%) ^b
BN+SDD (<i>n</i> = 20)	10 (50) ^{c,d}	2 (10) ^e	3 (15) ^f
BN-SDD (<i>n</i> = 27)	3 (11)	2 (7)	5 (19)
AN (<i>n</i> = 26)	1 (4) ^g	3 (12)	2 (8)
CW (<i>n</i> = 44)	0	2 (5)	2 (5)

Note: BN+SDD = bulimia nervosa with a history of substance dependence; BN-SDD = bulimia nervosa without a history of substance dependence; AN = anorexia nervosa; CW = control women.

^aInappropriate touching by a nonfamily member.

^bIntercourse or fondling by a family member.

^cThis value includes one subject who had a history of incest as well as rape.

^dThis value includes one attempted rape.

^eThis value includes one subject who had a history of incest as well as fondling.

^fThis value includes two subjects, one with a history of rape and one with a history of fondling, as well as incest.

^gThis was an attempted rape.

^hSome subjects had more than one type of sexual abuse.

for the majority of subjects in all three groups, sexual abuse preceded the onset of their eating disorder.

DISCUSSION

This study found rates of sexual abuse to be most elevated (65%) in subjects with BN+SDD. Thirty-seven percent of subjects with BN-SDD and 23% of subjects with AN had a history of sexual abuse. Subjects with all eating disorder subtypes had significantly higher rates of sexual abuse than the CW women (7%).

Our finding that approximately one half (49%) of the combined subgroups of BN subjects had a history of sexual abuse is consistent with the 50% rate of sexual abuse in a clinical sample of BN subjects provided by Tice et al. (1989), but greater than the rate of 27% found by Vize and Cooper (1995). We found that 23% of AN subjects had a history of sexual abuse, which is similar to the 25% rate reported by Vize and Cooper (1995), although Tice et al. (1989) reported a much higher rate of 50% for sexual abuse among their AN subjects. These inconsistencies may be due to the fact that neither Vize and Cooper (1995) nor Tice et al. (1989) separated their subjects into pure diagnostic eating

Table 4. Comparison of ages of onset for eating disorder vs. first occurrence of sexual abuse

Subject Group	Age of Sexual Abuse Onset	Age of Eating Disorder Onset	<i>p</i>	Percent whose Sexual Abuse Preceded Eating Disorder Onset
BN+SDD (<i>n</i> = 13)	16 ± 8	17 ± 3	NS	82
BN-SDD (<i>n</i> = 10)	13 ± 6	16 ± 3	NS	80
AN (<i>n</i> = 6)	12 ± 4	17 ± 8	NS	67

Note: Each row represents a matched *t* test. Only those subjects with a history of sexual abuse are included here. BN+SDD = bulimia nervosa with a history of substance dependence; BN-SDD = bulimia nervosa without a history of substance dependence; AN = anorexia nervosa.

disorder categories for analyses. Studying heterogeneous groups of subjects may obscure the relationship between sexual abuse and eating disorder subtypes.

Among our community CW subjects, 7% had a history of sexual abuse. This finding is similar to the rate of 10% reported by Welch and Fairburn (1994) for a noneating-disordered comparison group. However, a number of other studies have found much higher rates of sexual abuse in their control groups. For instance, in the study by Tice and colleagues (1989), the rate of sexual abuse among control subjects was 28%; however, they studied a psychiatric control group. In a study by Rorty et al. (1994b), 20% of control subjects had a history of sexual abuse; however, sexual abuse was assessed using self-report questionnaires. Methodological differences in the ascertainment of a sexual abuse history may also account for some discrepancies across studies.

The widely varying rates of sexual abuse reported in the literature are likely due to a number of factors. First, there has been no universal definition established for sexual abuse. Specifically, the literature on sexual abuse has lacked defining criteria such as types of abuse to be included and age criteria (if any) for determining sexual abuse. It is possible that childhood sexual abuse may indeed be a different phenomenon than sexual abuse experienced in adulthood. For the purposes of our study, we chose to include any history of sexual experiences that our subjects perceived as unwanted or abusive, rather than determining an arbitrary age criterion. In comparing our criteria for sexual abuse to a recent review which categorized study criteria for sexual abuse as narrow, intermediate, or broad, our criteria would be categorized as intermediate (Pope & Hudson, 1992). We defined sexual abuse as requiring physical contact and coercion, but not limited by age criteria, and we categorized the nature of sexual abuse into three descriptive groups: incest (which includes any unwanted intrafamilial sexual contact or intercourse), fondling (extrafamilial unwanted sexual contact), and rape (extrafamilial forced intercourse). Second, there has been no reliable and comprehensive instrument for assessing sexual abuse that has been used across studies. Third, among studies of the relationship between sexual abuse and eating disorders, there have been inconsistencies in how eating disorder subtypes are defined. For instance, many studies do not clarify whether AN subjects have a history of BN or whether BN subjects have been previously anorexic. Finally, the infrequent inclusion of community comparison groups is also a weakness in the existing literature.

Our group attempted to improve on the weaknesses in previous studies. We utilized a clear definition of a lifetime history of sexual abuse to include physical contact and coercion which was assessed via a direct structured interview. We also included subjects who met criteria for pure eating disorder subtypes. Finally, we assessed a noneating-disordered community control sample of women who were not screened for any other psychiatric disorders, so that they constituted a representative community sample.

A potential limitation of our study, with regard to generalizability, is the use of a clinical, rather than an epidemiological, sample of women with eating disorders. This may have resulted in spuriously high rates of sexual abuse in eating disorder subjects, due to the nature of the ascertainment of subjects. Future studies in this area may find it beneficial to include eating disorder subjects from both community and clinical samples (Welch & Fairburn, 1994).

In summary, these data suggest that rates and types of sexual abuse are different among women with different eating disorder subtypes. Among our three eating disorder subtypes, AN subjects had a comparatively lower rate of sexual abuse (23%) than either BN subgroup. AN subjects were most frequently subjected to fondling, with the age of occurrence approximately 5 years prior to the development of AN in most subjects.

BN–SDD subjects had a 37% rate of sexual abuse, most often manifested through incestuous abuse, occurring about 3 years prior to development of BN in most subjects.

Among the BN+SDD subtype, 65% of subjects had a history of sexual abuse, two thirds of which were rapes. The age of occurrence of both sexual abuse and substance dependence for this subgroup of women was about 1 year prior to the development of BN. Furthermore, in the BN+SDD subgroup, development of SDD occurred at a relatively young (age 16 ± 2) which is compatible with the research of Lacey and Moureli (1986). These findings suggest that the AN and BN–SDD women may have isolated experiences of sexual victimization (e.g., fondling, incest) during early puberty, yet do not develop a full spectrum of multi-impulsive traits. In contrast, the unwanted sexual experiences of the BN+SDD group often occurred later in adolescence than among the AN or BN–SDD women.

The question of whether sexual abuse causes the development of an eating disorder remains unclear. In our study sample, sexual abuse occurred prior to the onset of an eating disorder in the majority of subjects. However, the fact that sexual abuse occurred in only 40% of all women with eating disorders in this study casts doubt on the hypothesis that sexual abuse is etiologically significant in a majority of cases of eating disorders. Despite the volume of data collected on the relationship between sexual abuse and eating disorders, no conclusive findings have been established. Such hypotheses of association must be viewed with caution.

For example, sexual abuse may be related to poor impulse control or the failure to foresee the potential consequences of risk-taking behaviors. Thus, BN+SDD women may have characterological traits of poor impulse control and affective instability which may contribute to the development of these disorders of impulse control (BN and SDD). Several studies (Bulik et al., *in press*; Lilenfeld et al., *in press*; Suzuki et al., 1994) suggest that substance-dependent bulimic women tend to have poor impulse control and affective instability. Thus, bulimic women with substance dependence may fall into the multi-impulsive category first described by Lacey and Evans (1986). While it is possible that poor impulse control could be a sequela of an abusive history, an alternative possibility is that poor impulse control could predate the onset of substance dependence. Bulik and colleagues (*in press*) found that subjects with BN and alcoholism had high rates of childhood conduct disorders. The diagnosis of conduct disorder, which predated the onset of an eating disorder or substance use problems, raises the possibility that this subgroup has a trait-related disturbance of impulse control. Therefore, it is possible that poor impulse control combined with the use of drugs or alcohol may place this subgroup (BN+SDD) at a particularly high risk for traumatic sexual experiences.

Future research in the area of sexual abuse should acknowledge the distinction among eating disorder subtypes as well as consider traits of impulse control (i.e., substance dependence and other multi-impulsive traits) when attempting to derive meaning from the relationship between sexual abuse and the development of an eating disorder.

REFERENCES

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd Rev ed.). Washington, DC.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC.
- BMDP Statistical Software, Inc. (1988). Los Angeles: University of California Press.

- Bryer, J., Nelson, B., Miller, J.B., & Krol, P. (1987). Childhood sexual and physical abuse as factors in adult psychiatric illness. *American Journal of Psychiatry*, 144, 1426-1430.
- Bulik, C.M., Sullivan, P.F., Joyce, P.R., & Carter, F.A. (in press). Lifetime comorbidity of alcohol dependence in women with bulimia nervosa. *Addictive Behavior*.
- Bulik, C.M., Sullivan, P.F., & Rorty, M. (1989). Childhood sexual abuse in women with bulimia. *Journal of Clinical Psychiatry*, 50, 460-464.
- Carlin, A.S., & Ward, N.G. (1992). Subtypes of psychiatric inpatient women who have been sexually abused. *The Journal of Nervous and Mental Disease*, 180, 392-397.
- Connors, M.E., & Morse, W. (1993). Sexual abuse and the eating disorders: A review. *International Journal of Eating Disorders*, 13, 1-11.
- Coover, D.L., Kinder, B.N., & Thompson, J.K. (1989). The psychosexual aspects of anorexia nervosa and bulimia nervosa: A review of the literature. *Clinical Psychology Review*, 9, 169-180.
- DeGroot, J.M., Kennedy, S., Rodin, G., & McVey, G. (1992). Correlates of sexual abuse in women with anorexia nervosa and bulimia nervosa. *Canadian Journal of Psychiatry*, 37, 516-518.
- Endicott, J., & Spitzer, R.L. (1978). A diagnostic interview: The schedule for affective disorders and schizophrenia. *Archives of General Psychiatry*, 35, 837-844.
- Everill, J.T., & Waller, G. (1995). Reported sexual abuse and eating psychopathology: A review of the evidence for a causal link. *International Journal of Eating Disorders*, 18, 1-11.
- Hall, R., Tice, L., Beresford, T.P., Wooley, B., & Hall, A.K. (1989). Sexual abuse in patients with anorexia and bulimia. *Psychosomatics*, 30, 73-79.
- Jacobson, A. (1989). Physical and sexual assault histories among psychiatric outpatients. *American Journal of Psychiatry*, 146, 755-758.
- Lacey, J., & Evans, C. (1986). The impulsivist: A multi-impulsive personality disorder. *British Journal of Addiction*, 81, 641-649.
- Lacey, J.H. (1990). Incest, incestuous fantasy and indecency: A clinical catchment area study of normal weight bulimic women. *British Journal of Psychiatry*, 157, 399-403.
- Lacey, J.H. (1993). Self-damaging and addictive behaviour in bulimia nervosa: A catchment area study. *British Journal of Psychiatry*, 163, 190-194.
- Lacey, J.H., & Mourel, E. (1986). Bulimic alcoholics: Some features of a clinical subgroup. *British Journal of Addiction*, 81, 389-393.
- Lilenfeld, L.R., Kaye, W.H., Greeno, C.G., Merikangas, K.R., Plotnicov, K., Pollice, C., Rao, R., Strober, M., Bulik, C.M., & Nagy, L. (in press). Psychiatric disorders in women with bulimia nervosa and their first-degree relatives: Effects of comorbid substance dependence. *International Journal of Eating Disorders*.
- McClelland, L., Mynors-Wallis, L., Fahy, T., & Treasure, J. (1991). Sexual abuse, disordered personality, and the eating disorders. *British Journal of Psychiatry*, 158 (Suppl. 10), 63-68.
- Metropolitan Life Insurance Company. (1959). New weight standards for men and women. *Statistical Bulletin of Metropolitan Life Insurance*, 40, 1-11.
- Oppenheimer, R., Howells, K., Palmer, R.L., & Chaloner, D.A. (1985). Adverse sexual experience in childhood and clinical eating disorders: A preliminary description. *Journal of Psychiatric Research*, 19, 357-361.
- Palmer, R., & Oppenheimer, R. (1992). Childhood sexual experiences with adults: A comparison of women with eating disorders and those with other diagnoses. *International Journal of Eating Disorders*, 12, 359-364.
- Palmer, R.L., Oppenheimer, R., Dignon, A., Chaloner, D.A., & Howells, K. (1990). Childhood sexual experiences with adults reported by women with eating disorders: An extended series. *British Journal of Psychiatry*, 156, 699-703.
- Pope, H.G., & Hudson, J.I. (1992). Is childhood sexual abuse a risk factor for bulimia nervosa? *American Journal of Psychiatry*, 149, 455-463.
- Randall, E.J., Josephson, A.M., Chowanec, G., & Thyer, B.A. (1994). The reported prevalence of physical and sexual abuse among a sample of children and adolescents at a public psychiatric hospital. *Journal of Traumatic Stress*, 7, 713-718.
- Rorty, M., Yager, J., & Rossoto, E. (1994a). Childhood sexual, physical, and psychological abuse, and their relationship to comorbid psychopathology in bulimia nervosa. *International Journal of Eating Disorders*, 16, 317-334.
- Rorty, M., Yager, J., & Rossoto, E. (1994b). Childhood sexual, physical, and psychological abuse in bulimia nervosa. *American Journal of Psychiatry*, 151, 1122-1126.
- Stuart, G.W., Laraia, M.T., Ballenger, J.C., & Lydiard, R.B. (1990). Early family experiences of women with bulimia and depression. *Archives of Psychiatric Nursing*, 4, 43-52.
- Suzuki, K., Higuchi, S., Yamada, K., Komiya, H., & Takagi, S. (1994). Bulimia nervosa with and without alcoholism: A comparative study in Japan. *International Journal of Eating Disorders*, 16, 137-146.
- Tice, L., Hall, R.C.W., Beresford, T.P., Quinones, J., & Hall, A.K. (1989). Sexual abuse in patients with eating disorders. *Psychiatric Medicine*, 7, 257-267.
- Vitousek, K., & Manke, F. (1994). Personality variables and disorders in anorexia nervosa and bulimia nervosa. *Journal of Abnormal Psychology*, 103, 137-147.
- Vize, C.M., & Cooper, P.J. (1995). Sexual abuse in patients with eating disorders, patients with depression, and normal controls: A comparative study. *British Journal of Psychiatry*, 167, 80-85.
- Waller, G. (1991). Sexual abuse as a factor of eating disorders. *British Journal of Psychiatry*, 159, 664-671.

- Waller, G. (1992). Sexual abuse and severity of bulimic symptoms. *British Journal of Psychiatry*, 161, 90–93.
- Waller, G. (1993). Sexual abuse and eating disorders: Borderline personality disorder as a mediating factor? *British Journal of Psychiatry*, 162, 771–775.
- Welch, S.L., & Fairburn, C.G. (1994). Sexual abuse and bulimia nervosa: Three integrated case control comparisons. *American Journal of Psychiatry*, 151, 402–407.
- Wonderlich, S.A., Fullerton, D., Swift, W.J., & Klein, M.H. (1994). Five year outcome from eating disorder: Relevance of personality disorders. *International Journal of Eating Disorders*, 15, 233–243.
- Zerbe, K.J. (1992). Eating disorders in the 1990s: Clinical challenges and treatment implications. *Bulletin of the Menninger Clinic*, 56, 167–187.