

Prevalence of DSM-III-R Axis II Personality Disorders in College Women with Bulimia Nervosa

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■ ABSTRACT

Objectives: To evaluate the prevalence of the DSM - III - R personality disorders in Korean college women with bulimia nervosa.

Methods: Sixty - two subjects with bulimia nervosa, as identified by the Structured Clinical Interview for DSM - III - R, were compared to the age - and gender - matched healthy comparison subjects (n=62) on the prevalence of Axis II disorders, as determined by both the Revised Diagnostic Interview for Personality Disorders (DIPD - R) and by the Personality Disorder Questionnaire - Revised (PDQ - R).

Results: Subjects with bulimia nervosa had significantly greater prevalences of borderline personality disorder, Cluster B personality disorders, and any personality disorders compared to healthy comparison subjects (Fisher's exact test, $p=0.044$, $p=0.020$, $p=0.024$, respectively, by the DIPD - R ; $p=0.034$, $p=0.015$, $p=0.007$, respectively, by the PDQ - R).

Conclusions: This study reports greater prevalences of specific personality disorders, especially, borderline and Cluster B personality disorders in Korean college females with bulimia nervosa compared to comparison subjects. *Sleep Medicine and Psychophysiology* 1999 ; 6(1) : 32-37

Key words: Bulimia nervosa · Personality disorders · Prevalence · Korean.

INTRODUCTION

Subjects with bulimia nervosa (1) have been reported to have a wide range of comorbid psychiatric disorders or concurrent psychiatric symptoms (2-4). Bulimia nervosa has been reported to affect about 20% of female college students in the USA (5,6).

There has been an increasing interest in comorbid personality disorders in subjects with bulimia nervosa because of its theoretical and clinical implications in treating bulimic subjects, since its etiologies include not only biological factors but also developmental and family dynamic ones (7,8).

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The prevalence of comorbid personality disorders in subjects with bulimia nervosa ranges widely from 33 to 77% (9-11). In particular, borderline personality disorder has been reported to be one of the most common comorbid axis II disorders in subjects with bulimia nervosa (2,9,10) with its prevalence ranging from 2 to 47% (3). In contrast with these reports, Pope et al. (1987) reported no significant difference in the prevalence of borderline personality disorder or in the frequency of borderline symptoms between subjects with bulimia nervosa (n = 55, mean age = 26.1) and its comparison group. In line with this report, Zanarini et al. (1990) reported that there was no statistically significant difference in the prevalence of DSM-III criteria personality disorders between subjects with bulimia nervosa and the comparison group.

These divergent findings on the prevalence of comorbid personality disorders may arise from various causes including differences in inclusion and exclusion criteria, demographic and clinical characteristics of bulimic and comparison subjects including age, gender, and ethnicity, and also in personality assessment methods, as previously noted by Skodol et al. (1993).

In the present study, the authors attempted to evaluate the comorbid prevalence rates of personality disorders in subjects with bulimia nervosa, using refined methodologies over prior studies. First, all subjects were non-clinical college females of one ethnicity, i.e., Korean. Second, to minimize the differences caused by the personality disorder assessment tools, both well-established interview and questionnaire instruments were employed. Third and most importantly, bulimic subjects and non-clinical subjects were selected based on strict inclusion and exclusion criteria.

We hypothesize, based on most existing literature, that subjects with bulimia nervosa would have greater prevalence of borderline personality disorders, and possibly, Cluster B personality disorders compared to their healthy comparison group.

METHODS

1. Sample size estimation

Sample size calculations were based on expected cumulative incidence rate differences with an alpha level of 0.05 (12). To provide expected statistical power of 0.80 or greater for detecting differences in prevalences for borderline personality disorder between subjects with and without bulimia nervosa, sample size for each group should be a minimum of 60 (12).

2. Measures

To effectively address some of the methodology issues on the difference in personality assessment measures in subjects with bulimia nervosa (3), we employed two different measures of personality disorder assessment, the structured interview of the Revised Diagnostic Interview for Personality Disorders (DIPD-R) (13) and the self report instrument of the Personality Disorder Questionnaire (PDQ) (14). Additionally, we employed the Diagnostic Interview for Borderlines (DIB) to supplement the assessment of borderline personality disorder (15).

The DIPD-R is a semi-structured interview of 252 questions. Its validity and reliability have been well established (16) and been used previously in identifying comorbid personality disorders in subjects with bulimia nervosa (17).

The PDQ-R is a 162 item self-report instrument that has demonstrated test-retest reliability for many DSM-III personality disorders and has been previously used for identifying prevalence of personality disorders in subjects with

bulimia nervosa (3,14).

The DIB-R is a semi-structured interview that assesses 29 symptoms commonly associated with borderline functioning (15). It has a cut-off point score of 7 or higher for the diagnosis of BPD. Its reliability and validity have been demonstrated to be adequate.

Other instruments and assessed variables include the Korean version of the Beck Depression Inventory (BDI) (18, 19), educational level in years, the marital status, and the social class (20). Standardized Korean versions of the instruments were used when available (19,21) and other Korean versions of instruments were used after extensive translation and back-translation process to assure reliability.

3. Inclusion and exclusion criteria and recruitment

Inclusion criteria for bulimia subjects were 1) college women of a Korean ethnicity, 2) age: 18 to 27 years old; 3) diagnosed as currently having bulimia nervosa (bulimia nervosa group) or as having no Axis I psychiatric disorder (healthy comparison group) as identified by the Structured Clinical Interview for DSM-III-R (SCID) (22); 3) without concurrent neurological or other significant medical illnesses and past history of brain trauma, encephalitis, seizure, or attention-deficit hyperactive disorder/learning disabilities, as evaluated by history, school reports, physical examination.

Advertisements for possible bulimic subjects were run in five women's and four co-ed colleges in Seoul metropolitan areas. The respondents were first screened by telephone to ensure that they currently displayed symptoms of bulimia nervosa according to the DSM-III-R, which requires a minimum average of two binge-eating episodes a week for at least three months. Subjects meeting these criteria were then invited to be interviewed by the SCID-R. Out of 127 subjects interviewed, 65 subjects were excluded from the study because of a concurrent axis I disorders or other exclusion criteria, leaving sample size of 62. Age- and gender-matched healthy comparison subjects were recruited from female college populations. All comparison subjects were without any axis I as identified by the SCID.

After complete description of the study to the subjects, written informed consent was obtained. All study subjects were given financial compensation for time and travel.

4. Statistical analysis

Group differences in demographic variables involving

continuous data (age, years of education, the social class, body weight, and the BDI) were computed using student t-tests. Between-group comparisons involving categorical data were assessed using Fisher's exact test (gender and marital status).

Statistical significances were defined at the 0.05 level, two-tailed. However, caution should be used in interpreting these values because multiple comparisons were performed. SPSS 6.1 for Windows (23) were used for most computations except power calculations, which was done by Sig-mastat 2.0 (24). All the computations were double-checked with Statistica 5.1 for Windows (25).

RESULTS

Demographic and other clinical characteristics of the two groups are described in Table 1. There were no statistically significant differences in age, years of education, marital status, social class, and body weight between the two groups. Subjects with bulimia nervosa had significantly higher scores of the Beck Depression Inventory relative to comparison subjects.

Table 2 summarizes the findings on the prevalence of comorbid DSM-III-R personality disorders in subjects with and without bulimia nervosa, using dual instruments of the

Revised Diagnostic Interview for Personality Disorders and the Personality Disorder Questionnaire-Revised. Subjects with bulimia nervosa had a significantly greater prevalence of borderline personality disorder (Fisher's exact test, $p = 0.044$ by the DIPD-R and $p = 0.034$ by the PDQ-R), any Cluster B personality disorder (Fisher's exact test, $p = 0.020$ by the DIPD-R and $p = 0.015$ by the PDQ-R), and any per-

Table 1. Demographic characteristics in subjects with and without bulimia nervosa (BN)

	Subjects with BN (n = 62)		Subjects without BN (n = 62)	
	Mean	(SD)	Mean	(SD)
Age, years	20.7	(2.2)	21.3	(2.5)
Gender, female	62	(100)	62	(100)
Education, years	14.3	(3.3)	14.8	(4.9)
Marital status				
Married	2	(3.2)	3	(4.8)
Unmarried	60	(96.8)	59	(95.2)
Hollingshead and Redlich social class	2.2	(1.3)	1.9	(1.9)
Body weight, kg	48.2	(3.9)	46.1	(4.7)
Beck Depression Inventory*	11.1	(6.3)	6.7	(5.7)

#Numbers in parentheses represent standard deviations or mean percent distributions

*Significant difference between in the Beck Depression Inventory scores between groups (Student t-test, $t = 4.02$, $df = 122$, $p < 0.001$)

No significant differences between groups in age, gender, education, marital status, and social class

Table 2. Comorbid DSM-III-R personality disorders (PD) in subjects with and without bulimia nervosa (BN)

Personality disorder diagnosis	Diagnostic interview for personality disorders				Personality disorder questionnaire			
	Subjects with BN (n = 62)		Healthy comparison (n = 62)		Subjects with BN (n = 62)		Healthy comparison (n = 62)	
	N	(%)	N	(%)	N	(%)	N	(%)
Paranoid	1	(1.6)	0	(0)	2	(3.2)	1	(1.6)
Schizoid	1	(1.6)	1	(1.6)	1	(1.6)	1	(1.6)
Schizotypal	0	(0)	0	(0)	0	(0)	0	(0)
Any cluster A PD	2	(3.2)	1	(1.6)	3	(4.8)	2	(3.2)
Antisocial	1	(1.6)	0	(0)	1	(1.6)	0	(0)
Borderline ⁽¹⁾	11	(17.7)	3	(4.8)	13	(21.0)	4	(6.5)
Histrionic	2	(3.2)	1	(1.6)	3	(4.8)	2	(3.2)
Narcissistic	2	(3.2)	1	(1.6)	3	(4.8)	1	(1.6)
Any cluster B PD ⁽²⁾	14	(22.6)	4	(6.5)	16	(25.8)	5	(8.1)
Avoidant	2	(3.2)	1	(1.6)	3	(4.8)	1	(1.6)
Dependent	3	(4.8)	2	(3.2)	4	(6.5)	2	(3.2)
Obsessive-compulsive	2	(3.2)	1	(1.6)	3	(4.8)	1	(1.6)
Passive-aggressive	1	(1.6)	1	(1.6)	3	(4.8)	2	(3.2)
Any cluster C PD	6	(9.7)	3	(4.8)	9	(14.5)	4	(6.5)
Any personality disorder ⁽³⁾	19	(30.6)	7	(11.3)	23	(37.1)	9	(14.5)

Note: Cluster and overall totals are not additive due to multiple diagnoses received by some subjects.

DIPD-R: The Revised Diagnostic Interview for Personality Disorders

PDQ-R: The Personality Disorder Questionnaire-Revised

(1) Significant differences in the prevalence between groups (Fisher's exact test, $p = 0.044$ by the DIPD-R and $p = 0.034$ by the PDQ-R).

(2) Significant differences in the prevalence between groups (Fisher's exact test, $p = 0.020$ by the DIPD-R and $p = 0.015$ by the PDQ-R).

(3) Significant differences in the prevalence between groups (Fisher's exact test, $p = 0.024$ by the DIPD-R and $p = 0.007$ by the PDQ-R).

sonality disorders (Fisher's exact test, $p = 0.024$ by the DIPD-R and $p = 0.007$ by the PDQ-R) compared to healthy comparison subjects. There were no statistically significant differences in the prevalence of Cluster A or Cluster C between subjects with and without bulimia nervosa.

DISCUSSION

The study design of this study involved some possible limitations. Subjects with bulimia nervosa in the present study were on the lesser severe spectrum of the bulimia nervosa. Second, the reader must be aware of the possibility of false positive results since multiple comparisons were performed regarding prevalence of personality disorders.

Despite these limitations, the authors believe that this study reports important findings in a number of ways. We employed measures of both structured interview and self-report in assessing the prevalence of personality disorders since the varying results on the prevalence of personality disorders in bulimia have been, in part, attributed to different measures of assessment (3). In addition, the diagnosis of BPD, one of the most common comorbid PD in subjects with bulimia nervosa, was supplemented by using the structured interview of DIB. Second, this study provides opportunities to compare the results in the Korean sample with those in a Caucasian sample. Finally, the results may be of particular relevance to college women with bulimia nervosa who may need the increased attention of mental health professionals, especially when considering the fact that very few of them were under any kind of psychiatric treatment.

Identifying comorbid personality disorders in bulimia nervosa is important not only from theoretical viewpoints but also because it may help add clinical refinement in treating subjects with bulimia nervosa. Subjects with bulimia nervosa, in general, have been reported to have a poor response to psychotherapy or to psychotropic medications (26-27). Regarding one important cause of this treatment resistance, Skodol et al. (1993) reported that eating disorders with personality disorders are characterized by chronicity and low levels of functioning compared with eating disorders without personality disorders. Herzog et al. (1992) reported that eating disorder subjects with a comorbid personality disorder had a significantly slower recovery rate than those without a comorbid personality disorder. Rossiter et al. (1993) (28) reported that borderline and Cluster B

personality disorder characteristics on the instrument of Personality Disorder Examination were strong predictors of poor outcome.

Reported prevalences of comorbid personality disorders in subjects with bulimia nervosa varies widely ranging from 33 to 77% (9 - 11, 29), mostly reporting greater prevalence of personality disorders in subjects with bulimia nervosa. Zanarini et al. (1990) reported that 50% of active bulimic subjects ($n = 34$, mean age = 26.2) and 44% of the remitted bulimics ($n = 18$, mean age = 25.4) met DSM-III criteria for at least one axis II disorder as compared to 35% of the depressed controls though the differences did not reach the statistical significance. In the present study, subjects with bulimia nervosa had a significantly greater prevalence of any DSM-III-R personality disorders (30.6 - 37.1 %) on DSM-III-R compared to that of non-patient comparison (11.3 - 14.5%), depending on the assessment tools used.

As to comorbidity with specific personality disorders, the prevalence of comorbid BPD in subjects with bulimia nervosa have been reported to range from 2 to 47% (3, 9-11, 29-31), mostly reporting greater prevalence of BPD compared with comparison subjects. In contrast, Pope et al. (1987) reported no significant difference in the prevalence of borderline personality disorder or frequency of borderline symptoms between bulimia nervosa ($n = 55$, mean age = 26.1) and its comparison group. In the present study, subjects with bulimia nervosa had a significantly greater prevalence of Cluster B personality disorders (17.7 - 21.0% vs. 4.8 - 6.5%), with borderline personality disorder explaining most of its variance, compared to those without bulimia nervosa (22.6 - 25.8% vs. 6.5 - 8.1%).

Different results in prevalences of comorbid personality disorders between the present study and the prior ones may arise from the fact that our bulimic subjects were without any axis I disorders except bulimia nervosa and that our comparison group consisted of healthy comparison subjects who were without any axis I mental disorders. This is especially relevant considering high comorbidity of axis II disorders in subjects with other axis I disorders. Another clinical and demographic difference includes our subject characteristics, female college students on the less severe side of this eating disorder with mild level of depression.

There is limited amount of information on prevalence of comorbid personality disorders in Asian subjects with eating disorder (32) since Caucasian population have primarily been subjects of previous studies on bulimia nervosa

(2,33). Most previous studies on the prevalence of personality disorders in subjects with bulimia nervosa have not documented ethnic compositions of their study populations (6,9,29). Only a few previous studies have well documented information on ethnic characteristics of the study populations(3). Therefore, the present study with its research subjects of Korean college women provides opportunities to better understand the level of comorbid personality disorders in bulimic subjects across different ethnicity and cultural environment. Our results suggest that borderline personality disorder is also common in Asian population as well as in Caucasian population as was reported in previous studies on eating disorders (2,9-10).

In summary, the current study reports that Korean female college students with bulimia nervosa have significantly greater prevalence of borderline personality disorder, Cluster B and any personality disorders compared to non-bulimic healthy comparison subjects. Important clinical implication from the current study is that high comorbidity of borderline and Cluster B personality disorders may complicate the treatment process and prognosis, thus stressing the need for the increased awareness among clinicians and public health professionals. Further research is encouraged to confirm these findings in populations with different Asian ethnicity, in a larger population, and in a clinical population of bulimia nervosa.

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神經性 拒食症을 가진 女大生에서의 共存 性格障礙 頻度

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목 적 : 本 研究 神經性 拒食症 을 가진 女大生 上 DSM - III - R 上 人格障礙 頻度 正常對照群 比較 目的 .

방 법 : Structured Clinical Interview for DSM - III - R 使用 具 , I 軸 精神障礙 具 62 食餌障礙 募集 , 道具 I 軸 精神障礙 具 , 同數 年齡, 性別 募集 . 人格障礙 頻度 , 面接道具 ‘ 人格障礙 診斷面接檢査 ’ (Revised Diagnostic Interview for Personality Disorders) 設問檢査 ‘ 人格障礙 設問檢査 (Personality Disorder Questionnaire - Revised) 診斷的 信賴度 , 境界線 人格障礙 診斷 ‘ 境界線 人格 診斷面接檢査 (Diagnostic Interview for Borderlines) 追加 . 變數 憂鬱症狀 具 Beck 憂鬱評價道具(Beck Depression Inventory) 憂鬱症 具 .

결 과 : 本 研究 神經性 比較 有意 境界線 人格障礙, Cluster B 人格障礙 人格障礙 頻度 (Fisher's exact test, $p=0.044$, $p=0.020$, $p=0.024$, respectively, by the Revised Diagnostic Interview for Personality Disorders ; $p=0.034$, $p=0.015$, $p=0.007$, respectively, by the Personality Disorder Questionnaire - Revised).

결 론 : 本 研究 韓國人 女大生 神經性 拒食症群 正常對照群 比較 統計的 人格障礙 , 境界線 人格障礙 具 報告 , 結果 理論的, 臨床的 意義 論議 .

중심 단어 :