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Dysthymia in anorexia nervosa and bulimia nervosa

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ABSTRACT. In this study *ex post facto* we have analyzed the presence of dysthymia in 155 women. Ninety three met the DSM-IV diagnostic criteria for some of the eating disorder (ED) types: 31 with restrictive anorexia nervosa (ANr), 31 with purging/ bulimic anorexia nervosa (ANp) and 31 with purging bulimia nervosa (BNp); and 62 conformed the two comparisons groups: 31 women with high risk of eating disorder (symptomatic comparative group: S-GC) and another 31 without known pathology (non symptomatic comparative group: NS-CG). All of them completed the Spanish version of the MCMI-II. The results indicated that ED patients scored significantly higher on possible *dysthymic* syndrome [Base Rate (BR) scores > 74], of them, 50% with ANr, 60% with ANp and 63.35% with BNp. However, only 16.70% of women in high risk and 5.70% of non-pathology women showed it. These findings support that the dysthymic syndrome is frequent in women with ED, and those with purging behaviour show a slight increase in the severity of such syndrome.

KEYWORDS. Dysthymia. Anorexia nervosa. Bulimia nervosa. Comorbidity. *Ex post facto* study.

RESUMEN. Este estudio *ex post facto* analiza la presencia de distimia en 155 mujeres. Noventa y tres pacientes cumplían los criterios diagnósticos para un trastorno de la conducta alimentaria (TCA): 31 con anorexia nerviosa restrictiva (ANr), 31 con ano-

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rexia nerviosa purgativa/bulímica (ANp) y 31 con bulimia nerviosa purgativa (BNp); y 62 mujeres constituían los dos grupos comparativos: 31 con alto riesgo de padecer un TCA (grupo comparativo sintomático: GC-S) y 31 sin patología conocida (grupo comparativo no sintomático: GC-NS). Todas ellas cumplimentaron la versión española del MCMI-II. En los resultados encontramos diferencias significativas en las medias obtenidas por los grupos con TCA respecto a los dos grupos comparativos, y que presentaban el posible síndrome distímico [puntuaciones Tasa Base (TB) > 74] el 50% de las pacientes con ANr, el 60% con ANp y el 63,30% de las pacientes con BNp. Sólo el 16,70% de las mujeres de alto riesgo y el 5,70% de las mujeres sin patología lo presentaban. Estos hallazgos indican que el síndrome distímico es frecuente en las mujeres con TCA, y en aquellas que presentan conductas purgativas aumenta levemente la severidad del mismo.

PALABRAS CLAVE. Distimia, Anorexia nerviosa. Bulimia nerviosa. Comorbilidad. Estudio *ex post facto.*

Some investigations carried out with eating disorder patients showed that they quite often have additional co-occurring Axis I and Axis II disorders. Furthermore, little is known about the specificity of these associations (Herzorg, Keller, Sacks, Yeh, and Lavori, 1992). The onset of eating disorders typically occurs during adolescence and psychiatric comorbidity appears to be greater overall among adolescents than among adults (Zaider, Johnson, and Cockell, 2000). A better understanding and knowledge of the wide range of pathology associated to eating disorders can provide clinical practitioners with a more complete view of the personality features corresponding to eating disorder patients, and this view will consequently facilitate the development of more effective therapeutic strategies (Pearlstein, 2002; Río, Torres, and Borda, 2002).

On the other hand, research on comorbility in dysthymia patients has mainly focused on its study together with Axis II disorders. High prevalence rates of personality disorder were found, ranging from 15% to 85%. These rates were higher than those found in major depression patients (Pepper *et al.,* 1995). In the nineties studies already indicated high prevalence rates of Axis I disorders in patients with eating disorders (ED) ranging from 80% to 97% (Braun, Sunday, and Halmi, 1994; Brewerton *et al.,* 1995). According to data, depressive disorders appear as the most diagnosed disorders, followed by anxiety disorders (Brewerton *et al.,* 1995). Nevertheless, in spite of the association found between eating disorders and depressive disorders, the nature of such association has not been clearly defined yet (Troop, Serpell, and Treasure, 2001).

Among others aspects, it has not been possible to empirically determine whether biological and cognitive changes caused by malnutrition enhance a tendency to depression in people who have eating disorders or whether it is a direct cause of depression (Cooper, 1995; O'Brien and Vincent, 2003; Szmuckler, 1987). Specialized literature has described the strong relation between both diagnostic categories. For example, low weight can cause depressed mood, while weight loss is also a symptom of depressive disorder. Negative mood can lead people dieting to binge eating, and binge eating and also vomiting can result in negative mood.

On the other hand, there is evidence that women develop an eating disorder before the onset of the depressive disorder. Thus, there is wide consensus among researchers concerning the fact that depression associated to eating disorder is a process which develops later on (Troop *et al.,* 2001). There is greater than expected prevalence of depressive disorders among patients with anorexia nervosa (AN) and bulimia nervosa (BN). However, it seems that, depressive disorders do not have the same probability of development among all types of eating disorders, but they are important particularly in the purging/bulimic variations (BNp and ANp), this means patients who are more distressed by the lack of control over their diet and over the secondary effects of the eating disorder (O'Kearney, Gertler, Conti, and Duff, 1998).

Definitely, the relation between eating and depressive disorders has been extensively studied and has undergone deep debate especially throughout the nineties (Casper, 1998; Strober and Katz, 1987; Szmuckler, 1987). However, there are few investigations which have specifically studied the dysthimic disorder in patients with eating disorders. Investigations in this line have especially focused on samples of adolescent participants within the general population. Zaider *et al.* (2000) found a strong association between dysthymia and the presence of eating disorders, although they also found the presence of major depression disorder, dysthymia and panic disorder; however, only dysthymia (not major depression) was a strong predictor for eating disorders. Pérez, Joiner, and Lewinsohn (2004) have recently found that the presence of dysthymia in adolescence can be a possible risk factor in the development of bulimia nervosa. Recently, Karlsson *et al*. (2007) found that current comorbidity with ED was rare in major depressive disorder and accumulated in subject with dysthymia, suggesting a specific association between dysthymia with eating disorders. As these authors also indicate, when studying adult population, literature shows that the relation between bulimia or anorexia nervosa and dysthymia has not been thoroughly investigated.

We base our study on the definition of dysthymia proposed by Millon (1987). Within his theory, the dysthymic syndrome is considered, as assesed by the MCMI-II (Base Rate BR > 74), when a person has been affected with feelings of dejection or guilt, a lack of initiative and apathy in the behavior, low self-esteem and, frequently, expressions of uselessness and self-devaluative comments during a period of two or more years. During the periods of depression, an individual cries, have suicidal ideas, pessimistic feelings concerning the future, social withdrawal, lack of appetite or excessive urge to eat, chronic tiredness, poor concentration, an important loss of interest in leisure activities and a progressive lack of efficacy and the achievement of routine and ordinary life tasks.

To date and according to our knowledge, no study which would specifically investigate on dysthymic disorder in young people with eating disorders has been published. We refer to studies which also include comparative groups with and without known pathology. In spite of the fact that MCMI-II (Millon, 1987) is an instrument that provides a reliable measure for clinical psychopathology, it has scarcely been used in eating disorders. Nevertheless, we consider it to be a valid instrument, due to its utility in the detection of possible clinical syndrome faster than the other instruments.

The general objective of this *ex post facto* study (Montero and León, 2007) is to compare the scorings of the MCMI-II Dysthymia subscale (or depressive neurosis) (D) obtained by a) patients with eating disorders: restrictive AN, binge-eating/purging AN and purging BN, b) women with typical eating disorder symptomathology and, therefore, in high risk of suffering from eating disorders, and c) women without known pathology.

Method

Participants

A total group of 155 women were studied, of which 93 women met the DSM-IV diagnostic criteria for some of the ED types: 31 with anorexia nervosa restrictive subtype (ANr) with an average age of 22.23 years, 31 with AN purging subtype (ANp) with an average age equal to 23.29 years and 31 with bulimia nervosa purging subtype (BNp), with an average age of 23.16 years. They had all been evaluated before being assigned to an homogeneous group of cognitive-behavioural treatment in ADANER, Eating Disorders Association in Seville. The remaining 62 women conformed the two comparative groups: a) 31 women in high risk of developing ED (symptomatic comparative group: S-CG), since they showed typical symptomathology of the disorder (Eating Attitudes Test-EAT scores greater or equal to 30 points and a Body Shape Questionnaire-BSQ over 104); with an average age equal to 22.48 years. And b) 31 women who did not show known pathology and without any disorder in their eating behaviour (non symptomatic comparative group: NS-CG) with an average age of 22.61 years. Sociodemographic variables were controlled during the sample selection, so that all groups were equivalent in variables such as sex (constant), age (which ranged from 18 to 31 years), education, marital status and socioeconomic status (see Table1).

TABLE 1. Demographic characteristics of the sample.

		ANr (*n* = 31)	*ANp* (*n* = 31)	*BNp* (*n* = 31)	*S-CG* (*n* = 31)	*NS-CG* (*n* = 31)
Age		Mean (*SD*) 22.23 (3.48)	Mean (*SD*) 23.29 (4.03)	Mean (*SD*) 23.16 (3.45)	Mean (*SD*) 22.48 (3.72)	Mean (*SD*) 22.61 (3.44)
Marital status		Percentage (*n*)	Percentage (*n*)	Percentage (*n*)	Percentage (*n*)	Percentage (*n*)
	Married	6.50 (2)	6.50 (2)	3.20 (1)	6.50 (2)	3.20 (1)
	Single	93.50 (29)	93.50 (29)	96.80 (30)	93.50 (29)	96.80 (30)
Academic level	High School	16.10 (5)	16.10 (5)	19.40 (6)	19.40 (6)	19.40 (6)
	Professional Training	16.10 (5)	19.40 (6)	19.40 (6)	19.40 (6)	16.10 (5)
	University Education	67.70 (21)	64.50 (20)	61.30 (19)	61.30 (19)	64.50 (20)
Socio-economic level	Low	22.60 (7)	16.10 (5)	29 (9)	29 (9)	25.80 (8)
	Medium	45.20 (14)	41.90 (13)	41.90 (13)	41.90 (13)	38.70 (12)
	High	32.30 (10)	41.90 (13)	29 (9)	29 (9)	35.50 (11)

Instruments and procedures

All patients met DSM-IV diagnostic criteria for disorders analysed in this study. The assessment was carried out by a clinical psychologist with experience in eating

disorders. All patients had showed the development of an eating disorder during a period of more than two years. This was carried out following criteria on the diagnosis of dysthymic disorder, according to the DSM-IV-TR and according to Millon (1987).

We administrated to all women the following tests:

- Eating Attitudes Test (EAT-40) (Garner and Garfinkel, 1979); adapted version by Castro, Toro, Salamero, and Guimerá (1991) in which the authors obtained a global coefficient of validity of 0.61 ($p < 0.001$). For a cut-off point of 30 they obtained a sensibility of 67.90% and a specificity of 85.90%.
- Body Shape Questionnaire (BSQ) (Cooper, Taylor, Cooper, and Fairburn, 1987); adapted by Raich *et al.* (1996). The Spanish version has shown good internal consistency (α of Cronbach = .97) and concurrent validity (Raich *et al.,* 1996). A cut-off point of 104 points was considered.
- Millon Clinical Multiaxial Inventory (MCMI-II) in a version adapted to the Spanish population (Ávila, 2002; Millon, 1987). In addition to the assessment of different personality features, according to the DSM-III-R classification (clinical patterns and serious personality pathology in 13 scales); this instrument assesses clinical syndromes (in 6 scales: anxiety (A), somatoform (H), hypomania (N), dysthymia (D), alcohol abuse (B), drugs abuse (T), and serious syndromes in 3 scales: psychotic thought (SS), major depression (CC) and delirious disorder (PP). All the scales in the inventory reflect both "traits" and "states" to different degrees. Only the dysthymia scale (D) was used for this study. The Spanish adaptation of this test provides with reliability coefficients in this scale, of .90 for the clinical sample and of .86 for the comparison group. A cut-off score of BR higher or equal to 75 was considered in the MCMI-II, according to author recommendations (scorings BR higher or equal to 75 which show presence of this type of personality, while BR higher or equal to 85 indicate the highest or outstanding type of personality) (Millon, 1987).

Women from the two non-clinical groups who obtained a score of 30 or higher in the EAT as well as a score of 105 or higher in the BSQ (average EAT = 40.87 and average BSQ= 132.48) were part of the symptomatic comparative group. And those who obtained scores lower than 20 points (maximum score obtained below 30) in the EAT and scores under 95 points (maximum score obtained below 105) in the BSQ, conformed the non symptomatic comparative group (average EAT = 8.42 and average BSQ = 61.26). Results obtained by women with eating disorders in these two tests were not used for this study.

All instruments were administered according to administration and correction norms recommended by the corresponding authors. All women signed an Informed Consent Protocol before their participation as recommended by Río (2005).

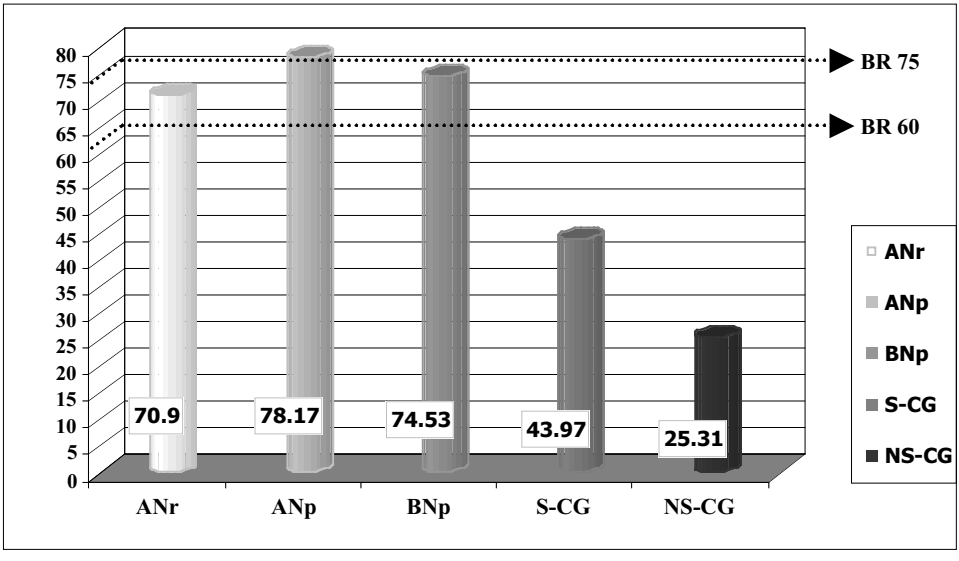
Statistical program SPPS 12.0 S version was used for statistical analysis. We carried out a descriptive analysis together with a comparison of average scores with one factor ANOVA technique and with the multiple comparison test (Sheffé test).

The present article was edited according to the norms established by Ramos-Álvarez, Valdés-Conroy, and Catena (2006).

Results

Women with ANp as well as those with BNp obtained average scores which indicated the presence of dysthymic syndrome (BR > 74) (78.17 and 74.53, respectively). Nevertheless, although the presence of the syndrome is not observed in ANr women, they do show significant clinical symptomathology corresponding to the disorder, since their score (70.90) is within the range of an expected median in all patients (BR > 60). Both comparative groups, the symptomatic and the non-symptomatic, showed an average score (43.97 and 25.31, respectively) which corresponds to the score obtained by people who do not report clinical disorders (BR > 35) (Ávila, 2002) (see Figure 1).

FIGURE 1: Mean scores of MCMI-II in dysthymia (D) scale.



*Note*s. ANr: anorexia nervosa restrictive subtype. ANp: anorexia nervosa purging subtype BNp: bulimia nervosa purging subtype. S-CG: symptomatic comparative group NS-CG: non symptomatic comparative group.
BR = Base Rate

Comparatively, we observe that women with eating disorders show significantly higher clinical depressive symptomathology compared to the groups with no eating pathology (see Figure 1 and Table 2).

TABLE 2. Mean comparison of MCMI-II dysthymia (D) scale.

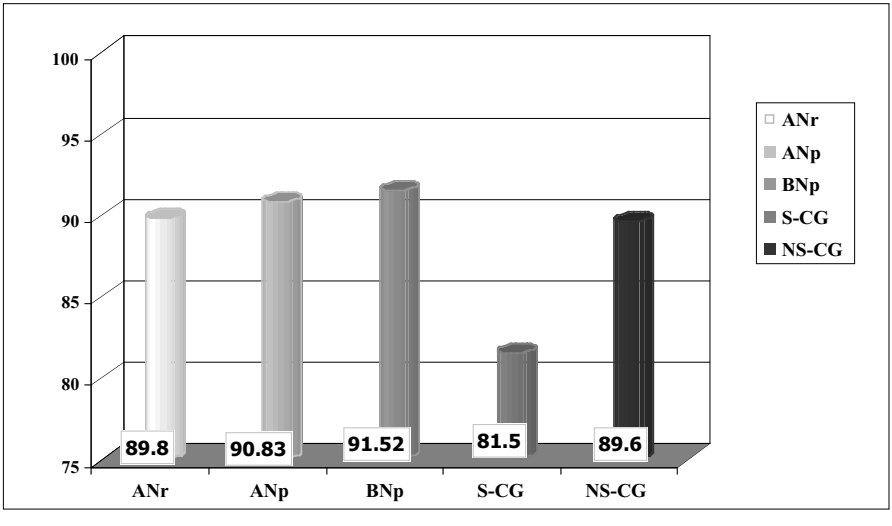
Comparisons	*F= 31,143* *gl = 4*
(Scheffé test)	*p*
ANr – S- CG	.000 **
ANr – NS-CG	.001 **
ANp – S-CG	.000 **
ANp – NS-CG	.000 **
BNp – S-CG	.000 **
BNp – NS-CG	.000 **
S-CG – NS-CG	.042 *

* $p < .05$ ** $p < .01$

*Note*s. ANr: anorexia nervosa restrictive subtype. ANp: anorexia nervosa purging subtype; BNp: bulimia nervosa purging subtype. S-CG: symptomatic comparative group. NS-CG: non symptomatic comparative group.

If we focus on the group of participants who show the diagnosis of dysthymic syndrome (BR > or = 75) (see Figure 2), we observe very similar scores. Nevertheless, when considered as a group, women in the ED group, obtain scores which not only show the presence of the dysthymic syndrome but also its severity and significance (BR > or = 85).

FIGURE 2. Mean scores of women who have possible dysthymic syndrome (BR > 74).

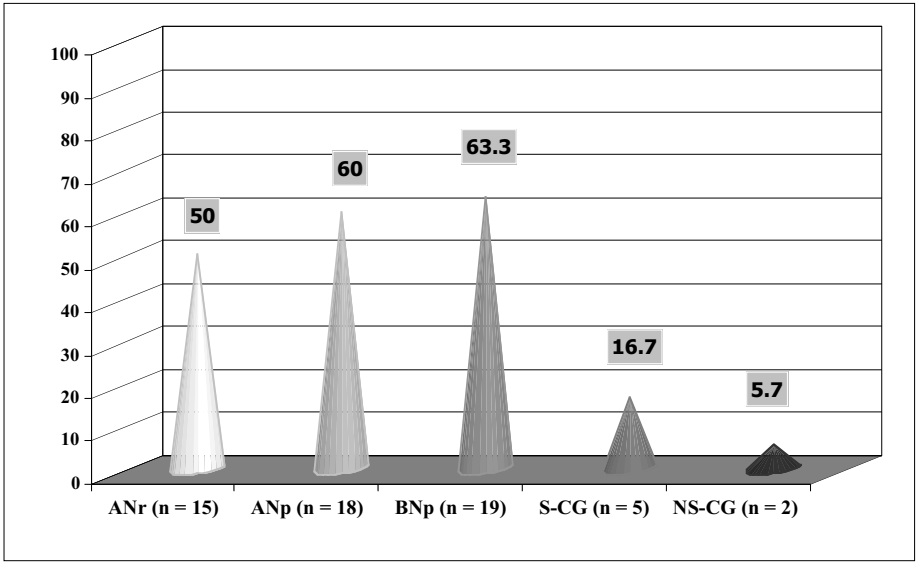


*Note*s. ANr: anorexia nervosa restrictive subtype. ANp: anorexia nervosa purging subtype. BNp: bulimia nervosa purging subtype. S-CG: symptomatic comparative group. NS-CG: non symptomatic comparative group.

BR=Base Rate

Regarding the percentage of women with eating disorders who show dysthymic syndrome (BR > or = 75) (see Figure 3), our results indicate that women with BNp are those who report the dysthymic syndrome with greater frequency 63.3% (n = 19), followed, in 60% with ANp (n = 18). Finally, 50% showed ANr (n = 15). These data aim toward a greater probability to develop dysthymia among the bulimic variant (BNp and ANp) of eating disorders. Nevertheless, these differences are not statistically significant. Due to this reason, data should be considered cautiously.

FIGURE 3. Percentages of women with possible dysthymic syndrome (BR > 74).



*Note*s. ANr: anorexia nervosa restrictive subtype. ANp: anorexia nervosa purging subtype. BNp: bulimia nervosa purging subtype. S-CG: symptomatic comparative group. NS-CG: non symptomatic comparative group.

Finally, participants with typical eating disorder symptomathology as for attitudes and behaviour related to food, weight and exercise, evidenced the dysthymic syndrome in a notably lower proportion than in the eating disorder groups (16.70%; n = 5), but in a greater proportion than participants without eating disorder (5.70%, n = 2) (See Figure 3).

Discussion

Our results are consistent with the findings described in specialized literature, in the sense that a high presence of depressive disorders was found in women who developed eating disorders. According to our knowledge, there is little research on the dysthymic syndrome which could be compared with our study. Casper (1998) collected the prevalence

found in several investigations carried out on depression in AN and in BN including those related to dysthymia. In general, they found that these rates ranged from 19% to 93% in the case of AN, and from 6% to 95% in the case of BN. Considering these data, we can indicate that our findings are, in both cases, within the percentage and rates observed for these disorders.

Our results show that women, who report some type of eating disorder, show the dysthymic syndrome in a significantly greater proportion, when compared to the two comparative groups. Likewise, according to what was expected, we found higher frequencies among women with purging behaviour (ANp and BNp) compared to those who present restrictive behaviour (ANr), although we should point out that these differences are not significant. Nevertheless, these data would be in line with the approach carried out by O'Kearney *et al.* (1998) as there is higher probability that bulimic variant patients also suffer from dysthymia, due to the fact that these patients show greater anxiety caused by the lack of control over their diet and the secondary effects produced by the eating disorder.

As we found in our study, the presence of eating symptomathology which means a greater risk of developing an eating disorder, is associated to a higher probability of developing dysthymia, while this probability decreases significantly in the group of women without pathology. However, based on the design of our investigation, we cannot state that dysthymia is a predicting factor or a risk factor in the development of eating disorders or in BN as claimed by Zaider *et al.* (2000) and Pérez *et al.* (2004). Nevertheless, since these authors studied adolescents, our results would support this hypothesis, as it is observed, dysthymia is more frequent among women with risk of development of an eating disorder than in those who show no pathology. It is evident that these results should be considered with caution, due to the size of our sample. It would be necessary to carry out this type of study increasing the number of people in each group.

On the other hand, regarding the hypothesis mentioned in the literature which claims that the onset of depressive disorders is secondary to eating disorders, we have to mention certain difficulties concerning the interpretation of such hypothesis. Among these difficulties is the common symptomathology in dysthymia and eating disorders especially when the eating disorder shows an evolution of at least two years (criteria for dysthymia). However, there are obviously differential symptoms for each disorder. When studying and comparing a group of women that show anomalous behaviour and attitudes concerning food, weight and exercise which are typical in eating disorders (but which do not meet diagnostic criteria according to DSM-IV), this means, women who evidence symptoms of eating pathology, although they have not developed the complete eating disorder syndrome, we can observe that the dysthymic disorder starts to appear with greater frequency in these women (compared to women without any eating pathology). Therefore, keeping in mind the necessary criteria of two years duration for the depressive symptomathology in dysthymia, would depressive symptomathology be prior to that corresponding to the onset of eating disorders in these women? Or on the contrary, do both disorders develop simultaneously? This is a question that would have to be clarified by carrying out longitudinal studies.

The presence of depressive symptomathology, and specifically symptomathology which corresponds to dysthymia, is frequent in women with eating disorders, which appears to be slightly higher in women who have purging and non-restrictive symptomathology. This symptomathology would also appear in women that already report anomalous behaviour and attitudes regarding food, weight and exercise, which means they are at risk of development of an eating disorder, although this risk would be considerably lower. Nevertheless, in spite of knowing this association, the etiological relation between these two disorders is still a matter which ought to be clarified.

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