

RELEVANT RISK FACTORS, CURRENT EATING PSYCHOPATHOLOGY, BODY SHAPE CONCERN AND PSYCHOLOGICAL FUNCTIONING IN EATING DISORDERS

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Objective: The first aim of this study is to assess retrospectively the relevant risk factors in patients with Eating Disorders (EDs). The second aim is the assessment of eating psychopathology, body shape concern and psychological functioning in different groups of eating disorders. Method: Evaluation prior to intervention of 73 patients with bulimia nervosa of the purging type (BN-P; n=29), binge eating disorder (BED; n=6), eating disorder not otherwise specified purging type (EDNOS-P; n=17) and eating disorder not otherwise specified restricting type (EDNOS-R; n=21). Findings: The most substantial risk factors found were previous presence of obesity and the onset of EDs in adolescence. Early menarche was not a risk factor. Body mass index (BMI) reflected the eating symptoms of each diagnostic group. The BN-P group presented the most severe eating symptoms. The majority of the groups had long duration of illness and presented body shape concern, social interaction difficulties and personality problems. On the other hand, feelings of inefficacy were not a clinical characteristic in the BE group. Conclusion: The fact that obesity antecedents has emerged as a substantial risk factor in ED patients is an additional argument for the necessity of prevention. Moreover, the social interaction difficulties found in the BE group support the need for more interpersonal intervention strategies.

Key words: relevant risk factors, eating disorders, psychological functioning, ex post facto study.

Objetivo: El primer objetivo del estudio es evaluar retrospectivamente, la relevancia de factores de riesgo en pacientes con Trastorno de la Conducta Alimentaria (TCA) en función de la categoría diagnóstica. El segundo objetivo, es evaluar la psicopatología alimentaria, la insatisfacción corporal y el funcionamiento psicológico en cada grupo diagnóstico. Método: Se evalúa en el momento previo al tratamiento de TCA, un total de 73 pacientes con diferentes criterios diagnósticos: Bulimia Nerviosa Purgativa (BN-P; n=29), la provisional forma diagnóstica del Trastorno por Atracón (TA; n=6), el Trastorno de la Conducta Alimentaria No Especificado tipo Purgativo (TCANE-P; n=17) y el Trastorno de la Conducta Alimentaria No Especificado tipo Restrictivo (TCANE-R; n=21). Resultados: Se hallan como factores de riesgo de consistencia el antecedente de obesidad y el inicio del TCA en la adolescencia. El inicio de la menarquia en la edad temprana no resulta ser un factor de riesgo. El Índice de Masa Corporal (IMC) refleja la sintomatología alimentaria de cada cuadro diagnóstico. El grupo BN-P, se caracteriza por presentar mayor severidad en la sintomatología alimentaria. La mayoría de grupos presenta larga duración de la enfermedad, dificultades en la imagen corporal, el funcionamiento psicosocial y características de personalidad. El sentimiento de ineficacia no fue una característica clínica en casos de TA. Conclusiones: El que los antecedentes de obesidad se hayan mostrado como un factor de riesgo de consistencia en los TCA es un argumento más a favor de la necesidad de su prevención. Las dificultades en el funcionamiento psicosocial encontradas en casos clínicos con TA, avalarían la necesidad de líneas de intervención de tipo más interpersonal en este tipo de pacientes.

Palabras clave: trastornos de la conducta alimentaria, factores de riesgo, características clínicas, estudio ex post facto.

As a result of extensive research on the aetiology of eating disorders (EDs), a wide range of risk factors have been identified (Striegel-Moore & Cachelin, 2001). Diagnoses of BN, BED and EDNOS (both subtypes) have gained a higher profile as their prevalence in our

society has increased (Fairburn, Cooper, Doll, Norman, & O'Connor, 2000). Very few studies have been carried out with samples of EDNOS (both subtypes), though it is estimated that their incidence is higher than specific forms (Fairburn & Harrison, 2003). The present study focuses on the evaluation of patients with diagnoses of BN-P, BED and EDNOS (both subtypes).

The tendency in the literature is to consider that risk of developing an ED is the result of the interaction among specific and general risk factors (Vandereycken & Noordenbos, 2000), and that the more risk factors

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that interact, the greater the probability of developing an ED (Fairburn, Welch, Doll, Davies, & O'Connor, 1997). Being female and living in a Western cultural context have been considered as two of the most substantial socio-cultural risk factors (Striegel-Moore, Silberstein, & Rodin, 1986). Other risk factors of a more specific nature have also been evaluated, such as obesity antecedents (childhood-adolescence), in both diagnostic BN and BED groups (Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000). Few studies have taken into account early menarche as a risk factor, despite the fact that it contextualizes the first important change in the female physique (Fahy & Russell, 1993) and could bring about premature body shape concern (Fairburn et al., 1997). Moreover, adolescence is considered the most high-risk developmental stage for EDs, in view of the many and diverse changes that converge in this period (Herzog, Dorer, Keel, Selwing, Ekeblad, Flores et al., 1999; Keel, Mitchell, Miller, Davis, & Crow, 1999; Maddocks, Kaplan, Woodside, Langdon, & Piran, 1992; Olmsted, Kaplan, & Rockert, 1994; Sohlberg, Norring, & Rosmark, 1992). Thus, the primary objective of our study is to assess the relevance of the risk factors mentioned: obesity antecedents, age at menarche and age at onset of the illness in adolescence, in the BN-P, BED and EDNOS (both subtypes) groups.

It is considered that the evaluation of onset and duration of the illness contributes information on the patient's clinical state in terms of severity and tendency for chronicity (Reas, Williamson, Martín, & Zucker, 2000). Body mass index (BMI) tends to reflect the eating symptoms specific to the clinical condition (Vaz, García-Herráiz, López-Vinuesa, Monge, Fernández-Gil, & Guisado, 2003). Frequency of the eating symptoms associated with the ED (i.e. binge eating, purging behaviours or restriction) also determines the severity of the clinical condition.

Various studies have associated EDs with difficulties in psychosocial functioning. Social and interpersonal dysfunction could provide the conditions for a worsening of the problem and stability of the eating pathology (Steiger, Leung, & Thibaudeau, 1993), whilst indicators of good social adjustment are associated with better clinical state (Garner, 1998).

The link among EDs and personality disorders and/or personality characteristics has been widely assessed. It is believed that EDs may have developed as a

consequence of a personality disorder and/or particular personality characteristics, and both would function as risk factors for the stability of the diagnosed condition, making more likely both behaviours and attitudes that increase the eating symptoms, body shape concern and other negative aspects of clinical relevance in EDs (Toro, 2004).

Our second objective is the evaluation of eating psychopathology (illness duration, BMI and eating symptoms), body image (attitudinal aspects of body image, drive for thinness and body shape concern) and psychological functioning (psychosocial aspects: interpersonal distrust and social insecurity; and personality characteristics: inefficacy, perfectionism, interoceptive awareness, fear of maturity, asceticism and impulsiveness). We consider of particular interest the differences that can be found in the evaluation of the different diagnostic conditions.

METHOD

Participants

The initial group was made up of 95 patients who sought help on their own initiative at a private centre in Barcelona specializing in the treatment of EDs. We excluded cases that presented physical disorders (diabetes and treatment with corticoids) and/or pregnancy ($n=7$), given the changes in attitude toward food that may appear as a reaction to hormonal changes. We also excluded male patients ($n=10$). Moreover, we discarded patients in which the evaluation was not completed ($n=3$). The group deemed appropriate for the study was made up of 73 patients who fulfilled the diagnostic criteria for EDs: BN-P; BED; EDNOS-P_(3and4) (Table1) and EDNOS-R_(1and2) (Table1), according to the DSM-IV (American Psychiatric Association, 1994) criteria. The largest number of patients corresponds to the diagnostic category BN-P ($n=29$), and we found few patients in the BED group ($n=6$). The numbers of patients in the EDNOS (both subtypes) groups are similar: EDNOS-P ($n=17$); EDNOS-R ($n=21$). As regards age, the youngest mean is found in the EDNOS-R group ($m=17.62$; $S.D.=3.51$) and the highest in the BED group ($m=25.50$; $S.D.=5.99$). Mean age in the patients with diagnosis of BN-P ($m=23.83$; $S.D.=5.77$) is close to that for the BED group. The EDNOS-P group ($m=21.9$; $S.D.=6.09$) lies between the BN-P and EDNOS-R groups.

METHOD

Material

The following psychometric instruments were administered:

- ✓ *Bulimic Investigatory Test Edinburgh* (BITE; Henderson, Freeman, 1987; Adaptation by Rivas, Bersabé, & Jiménez, 2004). This test is used as a screening tool for identifying ED patients in the general population. It evaluates bulimic eating symptoms. The questionnaire includes 2 scales: symptoms (BITE.Symp) and severity (BITE.Sev). According to Rivas et al. (2004), the internal consistency for both scales in the Spanish version is 0.81 and 0.62, respectively.
- ✓ Body Mass Index (BMI) is obtained from the calculation $BMI = Kg/m^2$, according to the Quetelet Index (Beumont, Al-Alami, Touyz, 1988).
- ✓ *Body Shape Questionnaire* (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987 / Adaptation by Raich, Mora, Soler, Ávila, Clos, & Zapater, 1996). Measures attitudinal alterations related to body image, such as body shape concern and worrying about one's weight. It is a self-report instrument with 34 items. The Spanish version showed adequate discriminant validity after the comparison between a group of BN patients and a control group ($t=11.7$; $df=571$; $P<.0001$).
- ✓ *Eating Disorder Inventory2* (EDI2; Garner, 1998). This inventory assesses certain psychological features associated with EDs. It is a self-report instrument with 91 elements and provides scores on 11 clinically relevant subscales. The reliability and validity obtained for the EDI2 as a whole should not be generalized to the subscales in isolation. It

presents discriminant validity in the majority of the subscales.

PROCEDURE

The assessment began just prior to the specialist treatment for EDs at a private centre in Barcelona. Assessors were psychologists and psychiatrists with experience in the assessment and treatment of EDs, and obtained the diagnosis on the basis of the DSM-IV (American Psychiatric Association, 1994) criteria. The components assessed were:

1. Risk factors: obesity antecedents (childhood and/or adolescence), age at menarche and age at illness onset.
2. Eating psychopathology: illness duration, BMI and eating symptoms (BITE, bulimia EDI2).
3. Body image: attitudinal alterations of body image (BSQ), drive for thinness and body shape concern (EDI2).
4. Psychological functioning: psychosocial aspects (interpersonal distrust and social insecurity (EDI2) and personality characteristics (inefficacy, perfectionism, interoceptive awareness, fear of maturity, asceticism and impulsiveness (EDI2)).

Data associated with risk factors (obesity antecedents, age at menarche, age at illness onset) and illness duration are obtained from the retrospective information provided directly by the patients. Patients are asked whether during childhood and/or adolescence they presented obesity. Information on age at menarche is obtained and patients are sorted into age groups (Ackard & Peterson, 2001). Age at illness onset is established according to the first significant symptom linked to eating pathology (Fairburn et al., 1997).

The statistical analyses were carried out using SPSS (Windows, version 12.0). ANOVA was used to compare means scores of the quantitative variables between groups.

RESULTS

Risk factors: obesity antecedents, age at menarche and age at illness onset (Table 2).

It is found that all BED patients present antecedents of obesity: childhood 50% ($n=3$) and adolescence 50% ($n=3$). In the BN-P group we find high indices of obesity in both childhood (34.5%) and adolescence (31%). In the EDNOS-P group there are higher percentages of obesity antecedents in adolescence (29.4%) and lower percentages in childhood (17.6%). In the EDNOS-R

Table 1
Diagnostic category EDNOS (subtypes)
F50.9. Eating Disorder Not Otherwise Specified [307.50]

The Eating Disorder Not Otherwise Specified category refers to eating disorders that fail to meet the criteria for any specific eating disorder. Some examples are:

1. In girls and women, all the diagnostic criteria for anorexia nervosa are met, but menstruation is regular. (EDNOS-R₍₁₎)
2. All the diagnostic criteria for anorexia nervosa are met, but although there is significant weight loss, the individual's weight is within the bounds of normality. (EDNOS-R₍₂₎)
3. All the diagnostic criteria for bulimia nervosa are met, but binges and inappropriate compensatory behaviours occur less than twice per week or for a period of under 3 months. (EDNOS-P₍₃₎)
4. Regular use of inappropriate compensatory behaviours after the ingestion of small quantities of food by an individual of normal weight (e.g., making oneself sick after eating two biscuits). (EDNOS-P₍₄₎)
5. Chewing and spitting out, but not swallowing, large quantities of food.

group there are higher percentages of obesity antecedents in childhood (38.1%) and lower ones in adolescence (19%). Age at menarche tends to be normal in the BN-P (65.5%), EDNOS-P (52.9%) and EDNOS-R groups (66.7%), and in the BED group the menarche tends to occur early (11years; 33.4%) or late (14 years; 50.1%). Age at illness onset tends to be during adolescence in all the groups assessed.

Eating psychopathology: illness duration, BMI and eating symptoms (Table 3).

Illness duration. All the groups assessed presented more than 2 years' illness duration. The BED group is that which presents the longest illness duration (m=8.83; S.D.=6.24), followed by the BN-P group (m=6.34; S.D.=4.98), EDNOS-P (m=5; S.D.=4.48) and EDNOS-R group (m=2.52; S.D.=2.83).

BMI. This tends to be found within the normal range in the BN-P (m=22.23; S.D.=3.06) and EDNOS-P group (m=23.57; S.D.=5.53), towards the obesity end in the BED group (m=35.11; S.D.=7.59) and towards the underweight end in the EDNOS-R group (m=19.63; S.D.=2.76). ANOVA is significant for this variable ($F_{(3,69)}=21.95$; $P<.0001$).

Eating symptoms. The BN-P and BED groups were found to present higher scores of symptoms scale than the EDNOS groups (both subtypes). ANOVA is significant for this variable ($F_{(3,69)}=20.80$; $P<.0001$). On the severity scale, the BN-P group presents higher scores than the rest of the groups. ANOVA is significant for the BITE variable (severity) ($F_{(3,69)}=18.80$; $P<.0001$). On the Bulimia subscale (EDI-2), the BN-P group presents higher scores than the other groups. ANOVA is significant for this variable ($F_{(3,69)}=15.07$; $P<.0001$).

Body image: attitudinal alterations related to body image, drive for thinness and body shape concern (Table 4).

The data obtained with the BSQ indicate that the groups assessed present attitudinal alterations in relation to body image, especially the BN-P group (m=144.55; S.D.=32.51). No significant differences emerged from the comparison of the means scores (ANOVA). In Drive for thinness (EDI2), the BN-P group (m=17.31; S.D.=4.11) was found to present higher scores than the rest of the groups assessed. ANOVA was significant for this variable ($F_{(3,69)}= 5.76$; $P<.001$). In Body shape concern (EDI2), high scores were found in all the groups assessed. No significant differences were found in the comparison of the means scores (ANOVA) among the groups.

Psychological functioning: psychosocial aspects and personality characteristics (Table 5).

In the assessment of psychosocial aspects, the data obtained on interpersonal distrust and social insecurity (EDI2) indicate no significant differences in the comparison of means scores (ANOVA) between the diagnostic groups assessed. As regards personality characteristics, the data show that in inefficacy and perfectionism (EDI2) there were no significant differences in the comparison of means scores (ANOVA) between the groups. In interoceptive awareness (EDI2), the BN-P group (m=13.79; S.D.=6.32) presents higher scores than the rest of the groups. ANOVA is significant for this variable ($F_{(3,69)}=4.50$; $P<.006$). In fear of maturity, asceticism and impulsiveness (EDI2) there are no significant differences in the comparison of the means scores (ANOVA) among the groups assessed.

Table 2
Risk factors: obesity antecedents, age at menarche and age at illness onset

		BN-P (n=29)	BED (n=6)	EDNOS-P (n=17)	EDNOS-R (n=21)
Obesity antecedents	Childhood (11-12.99 years)	34.5%	50%	17.6%	38.1%
	Adolescence (13-17.99 years)	31%	50%	29.4%	19%
Age at menarche	Early (11 years)	13.7%	33.4%	23.5%	19%
	Normal (12-13.99 years)	65.5%	16.7%	52.9%	66.7%
	Late (14 years)	20.6%	50.1%	23.5%	14.3%
Age at illness onset	Pre-adolescence (11-12.99 years)	3.4%	16.7%	17.65%	14.3%
	Adolescence (13-17.99 years)	65.5%	50%	64.7%	61.9%
	Adult (18 years)	31%	33.3%	35.3%	23.8%

Note: BN-P: Bulimia Nervosa Purging type; BED: Binge Eating Disorder; EDNOS-P: Eating Disorder Not Otherwise Specified Purging type; EDNOS-R: Eating Disorder Not Otherwise Specified Restricting type.

DISCUSSION

The primary objective of the study was to assess the relevance of risk factors in the different diagnostic

groups of EDs: BN-P, BED and EDNOS (subtypes). One of the first findings of our work is that antecedents of obesity constitute a substantial risk factor common to

Table 3
Eating psychopathology: illness duration, body mass index and eating symptomatology

		BN-P (n=29)		BED (n=6)		EDNOS-P (n=17)		EDNOS-R (n=21)					
		m	(SD±)	m	(SD±)	m	(SD±)	m	(SD±)				
Illness duration		6.34	4.98	8.83	6.24	5	4.48	2.52	2.83				
Body Mass Index		22.23	3.06	35.11	7.59	23.57	5.53	19.63	2.76				
Differences means P													
		P.Post hoc Diagnosis				Sympt.	Sev.	B	Sympt.	Sev.	B		
		BN-P		BED		3.63	6.75	4.89	.59	.026*	.16		
Eating symptomatology		BN-P (n=29)	BED (n=6)	EDNOS-P (n=17)	EDNOS-R (n=21)	EDNOS-P EDNOS-R	7.78 12.87	6.58 9.96	5.95 8.89	.001* .001*	.001* .001*	.002* .001*	
Sympt.	(m) (SD±) (%)	25.96 3.25 93.2	22.3 4.08 83.3	18.17 6.86 47.2	13.09 7.77 19.2	BED	BN-P EDNOS-P EDNOS-R	-3.63 4.15 9.23	-6.75 -1.6 3.21	-4.89 1.05 4	.59 .52 .012*	.026* 1 .55	.16 .97 .35
Sev.	(m) (SD±) (%)	13.58 5.56 72.6	6.83 3.18 16.7	7 4.92 41.2	3.61 3.80 4.8	EDNOS-P	BN-P BED EDNOS-R	-7.78 -4.15 5.08	-6.58 .16 3.38	-5.95 -1.05 2.94	.001* .52 .07	.001* 1 .21	.002* .97 .32
B	(m) (SD±) (%)	19.89 5.74 93.2	6 4.51 83.3	4.94 3.88 76.5	2 3.89 33.3	EDNOS-R	BN-P BED EDNOS-P	-12.87 -9.23 -5.08	-9.96 -3.21 -3.38	-8.89 -4 -2.94	.001* .012* .07	.001* .55 .21	.001* .35 32

Note: BN-P: Bulimia Nervosa Purging type; BED: Binge Eating Disorder; EDNOS-P: Eating Disorder Not Otherwise Specified Purging type; EDNOS-R: Eating Disorder Not Otherwise Specified Restricting type. Sympt.: BITE Symptoms Scale; Sev.: BITE Severity Scale; B: Bulimia EDI2.
* Difference between the means is significant at the .05 level (P<.05)

Table 4
Body shape concern: attitudinal alterations in relation to body image and obsession with thinness

		BN-P (n=29)		BED (n=6)		EDNOS-P (n=17)		EDNOS-R (n=21)					
		m	(SD±)	m	(SD±)	m	(SD±)	m	(SD±)				
Differences means P													
		P.Post hoc Diagnosis				BSQ	DT	BD	BSQ	DT	BD		
		BN-P		BED		33.55	5.31	.02	.161	.27	1		
Body shape concern		BN-P (n=29)	BED (n=6)	EDNOS-P (n=17)	EDNOS-R (n=21)	EDNOS-P EDNOS-R	16.55 24.50	5.01 6.54	4.92 4.81	.479 .115	.06 .004*	.28 .24	
BSQ	(m) (SD±) (%)	144.5 32.51 86.2	109 39.20 49.9	128 31.68 82.4	120.04 47.09 57.6	BED	BN-P EDNOS-P EDNOS-R	-35.55 -19 -11.04	-5.31 -2.29 1.23	-.02 4.89 4.78	.161 .713 .921	.27 1 .97	1 .66 .66
DT	(m) (SD±) (%)	17.31 4.11 89.8	12 7.23 66.6	12.29 5.90 41.1	10.76 7.53 57.3	EDNOS-P	BN-P BED EDNOS-R	-16.55 19 7.95	-5.01 .29 1.53	-4.92 -4.89 -1.10	.479 .713 .916	.06 1 .89	.28 .66 1
BD	(m) (SD±) (%)	18.86 6.92 83	18.83 10.41 66.6	13.94 7.86 41	14.04 9.34 52.2	EDNOS-R	BN-P BED EDNOS-P	-24.5 11.04 -7.95	-6.54 -1.23 -1.53	-4.81 -4.78 .10	.115 .921 .916	.004* .97 .89	.24 .66 1

Note: BN-P: Bulimia Nervosa Purging type; BED: Binge Eating Disorder; EDNOS-P: Eating Disorder Not Otherwise Specified Purging type ; EDNOS-R: Eating Disorder Not Otherwise Specified Restricting type; BSQ: Attitudinal alterations in relation to body image ; DT: Drive for thinness EDI2; BD: Body shape concern EDI2.
* Difference between the means is significant at the .05 level (P<.05)

all the diagnostic groups assessed, including the EDNOS (both subtypes). Our data are consistent with those of previous research carried out in samples with BN (Fairburn et al., 1997) and the diagnostic form BED (Striegel-Moore, Cachelin, Dohm, Pike, Wilfley, & Fairburn, 2001). The prevention of obesity, indeed, is emerging as a priority health issue at both national and

international levels (AESA, 2005; Henderson & Brownell, 2004; USDHHS, 2001; Wadden, Brownell, & Foster, 2002; WHO, 1998), and its role as a risk factor in the development of EDs provides another argument in support of preventive efforts.

In the assessment of the menarche, the majority of the groups assessed were situated in the normal weight

Table 5
Psychological functioning: psychosocial aspects and personality characteristics

						Differences means			P				
						P.Post hoc Diagnosis	ID	SI	ID	SI			
Psychosocial Aspects		BN-P (n=29)	BED (n=6)	EDNOS-P (n=17)	EDNOS-R (n=21)	BN-P	BED	.45	1.56	.99	.93		
						EDNOS-P	EDNOS-P	.73	1.53	.95	.82		
						EDNOS-R	EDNOS-R	.01	-.07	1	1		
Psychosocial Aspects						BED	BN-P	.45	-1.56	.99	.93		
						EDNOS-P	EDNOS-P	1.19	-.02	.95	1		
						EDNOS-R	EDNOS-R	.47	-1.64	.99	.93		
ID	(m)	4.2	4.66	3.47	4.19	EDNOS-P	BN-P	-.73	-1.53	.95	.82		
	(SD±)	4.37	3.07	3.84	4.79		BED	-1.19	.02	.95	1		
	(%)	34.6	66.6	29.3	38.1		EDNOS-R	-.71	-1.61	.96	.83		
SI	(m)	7.06	5.5	5.52	7.14	EDNOS-R	BN-P	-.01	.07	1	1		
	(SD±)	4.57	4.84	4.19	7.07		BED	-.47	1.64	.99	.93		
	(%)	38.1	33.3	52.9	42.8		EDNOS-P	.71	1.61	.96	.83		
								I	P	IA	I	P	IA
Personality characteristics		BN-P (n=29)	BED (n=6)	EDNOS-P (n=17)	EDNOS-R (n=21)	BN-P	BED	7.28	2.32	8.79	.13	.81	.045*
						EDNOS-P	EDNOS-P	5.20	1.36	5.49	.11	.87	.078
						EDNOS-R	EDNOS-R	1.47	2.41	4.60	.90	.48	.13
I	(m)	10.62	3.33	5.41	9.14	BED	BN-P	-7.28	-2.32	-8.79	.13	.81	.045*
	(SD±)	6.82	3.26	3.96	8.95		EDNOS-P	-2.07	-.96	-3.29	.93	.98	.78
	(%)	45	0	17.50	42.90		EDNOS-R	-5.80	.09	-4.19	.34	1	.61
P	(m)	7.65	5.33	6.29	5.23	EDNOS-P	BN-P	-5.20	-1.36	-5.49	.11	.87	.078
	(SD±)	-5.1	-2.8	-4.29	-6.77		BED	-2.07	.96	3.29	.93	.98	.78
	(%)	79.4	49.9	47	28.6		EDNOS-R	3.73	1.05	-.89	.42	.94	.98
IA	(m)	13.79	5	8.29	9.19	EDNOS-R	BN-P	-1.47	-2.41	-4.60	.90	.48	.13
	(SD±)	-6.32	-4.38	-5.59	-8.42		BED	5.80	-.09	4.19	.34	1	.61
	(%)	72.5	16.5	41.1	38		EDNOS-P	3.73	-1.05	.89	.42	.94	.98
								MF	A	IR	MF	A	IR
Personality characteristics		BN-P (n=29)	BED (n=6)	EDNOS-P (n=17)	EDNOS-R (n=21)	BN-P	BED	1.68	5.44	5.36	.90	.09	.26
						EDNOS-P	EDNOS-P	1.57	2.68	4.09	.79	.32	.17
						EDNOS-R	EDNOS-R	-.73	2.25	3.19	.96	.42	.33
MF	(m)	6.68	5	5.11	7.42	BED	BN-P	-1.68	-5.44	-5.36	.90	.09	.26
	(SD±)	-4.49	-4.69	-3.72	-6.5		EDNOS-P	-.11	-2.76	-1.26	1	.67	.97
	(%)	48.4	50	35.1	47.6		EDNOS-R	-2.42	-3.19	-2.16	.78	.54	.89
A	(m)	8.44	3	5.76	6.19	EDNOS-P	BN-P	-1.57	-2.68	-4.09	.79	.32	.17
	(SD±)	-4.71	-2.36	-2.46	-6.18		BED	.11	2.76	1.26	1	.67	.97
	(%)	65.6	16.6	52.9	28.6		EDNOS-R	-2.31	-.42	-.90	.57	.99	.97
IR	(m)	8.86	3.5	4.76	5.66	EDNOS-R	BN-P	.73	-2.25	-3.19	.96	.42	.33
	(SD±)	-6.28	-3.27	-4.54	-6.95		BED	2.42	3.19	2.16	.78	.54	.89
	(%)	76	33.2	52.9	38		EDNOS-P	2.31	.42	.90	.57	.99	.97

Note: BN-P: Bulimia Nervosa Purging type; BED: Binge Eating Disorder; EDNOS-P: Eating Disorder Not Otherwise Specified Purging type; EDNOS-R: Eating Disorder Not Otherwise Specified Restricting type; ID: Interpersonal distrust EDI2; SI: Social insecurity EDI2; I: Inefficacy EDI2; P: Perfectionism EDI2; IA: Interoceptive awareness EDI2; MF: Fear of maturity EDI2; A: Asceticism EDI2; IR: Impulsiveness EDI2.
* Difference between the means is significant at the .05 level (P<.05)

(Fahy & Russell, 1993), the exception being the BED group. Our data support the view that early menarche is not a substantial risk factor for the development of EDs. We are inclined to concur with Ackard and Peterson (2001) who suggested that the negative perception of one's weight at the menarche may function as a risk factor for the development of EDs. BED patients were associated with early or late menarche. We believe that the high indices of overweight and obesity in this type of patient might be affecting normalization in the person's hormonal development. Nevertheless, our results should be treated with caution, given the small number of patients in the BED group.

In all the groups assessed illness onset was situated in adolescence (Ben-Tovim, Walker, Gilchrist, Freeman, Kalucy, & Esterman, 2001), and this result differed from those of studies which, in the BED group, found illness onset in adulthood (Santonastaso, Ferrara, & Favaro, 1999). This discrepancy might be attributed to the lack of standard criteria for the establishment of illness onset. There is unanimous agreement on the fact that adolescence is a stage in which people undergo a wide range of biological changes (Striegel-Moore et al., 1986), and is the developmental stage in which a large number of risk factors for the development of EDs interact.

In the evaluation of eating psychopathology, the majority of groups presented long illness duration (5 years or more) at the time of the evaluation, the exception being EDNOS-R (around 2 years). This was also found in previous studies (Bulik, Sullivan, Joyce, Carter, & McIntosh, 1998; Fichter & Quadflieg, 1997; Keel et al., 1999; Maddocks et al., 1992; Reas et al., 2000; Steiger et al., 1993; Vervaet, van Heeringen, & Audenaert, 2004b; Norring, 1990; Probst, Vandereycken, Vanderlinden, & Van Coppenolle, 1998; Sohlberg et al., 1992; Vervaet, van Heeringen, & Audenaert, 2004a). It is important to point out, given the risk of bias, that the data on illness duration were obtained retrospectively from information provided directly from patients according to their own perception (Keel & Mitchell, 1997). Moreover, another limitation involved in the evaluation of this component lies in the lack of agreed criteria for such assessment. In this regard, few studies have made explicit their evaluation criteria (Reas et al., 2000), and this should be borne in mind on comparing studies.

BMI reflected the eating symptoms of each diagnostic condition. The majority of the groups assessed were in the range of normal weight, the exception being the BED group, which were characterized by high obesity. Our data were consistent with the results obtained in previous studies (Fairburn, Doll, Welch, Hay, & Davies, 1998; Fitzgibbon, Sánchez-Johnsen, & Martinovich, 2003). In the context of the DSM-IV (American Psychiatric Association, 1994) criteria, different suggestions were made with regard to the new diagnostic classification of BN-NP and the provisional BED. The associated problem of obesity in the BED group potentially provides grounds for considering it as a distinct diagnostic criterion, as is advocated by some authors (Devlin, Walsh, Spitzer, & Hasin, 1992; Spitzer, Devlin, Walsh, Hasin, Wing, Marcus et al., 1992; Spitzer, Yanovski, Wadden, Wing, Marcus, Stunkard et al., 1993).

In the evaluation of eating symptoms we found that the BN-P group was characterized by greater severity in this aspect (Fahy & Russell, 1993; Tobin, Griffing, & Griffing, 1997).

All the groups assessed presented difficulties in the evaluation of body image, as regards not only attitudinal alterations and body shape concern (le Grange, Loeb, Van Orman, Courtney, & Jellar, 2004) but also drive for thinness. Body shape concern has been identified a risk factor (Toro, 2004) and common diagnostic criterion in EDs. Its central role in EDs provides a further argument in support of its prevention and treatment.

In the assessment of psychological functioning we found that all the diagnostic groups had difficulties in psychosocial aspects, (interpersonal distrust and social insecurity), and these findings coincide with those of Norring (1990). Studies on the efficacy of treatments indicate that in the case of EDs, especially BN and conditions with bulimic eating symptoms, both cognitive-behavioural therapy and interpersonal psychotherapy have proved to be effective treatments (Chambless, Baker, Baucom, Beutler, Crits-Christoph, Daiuto et al., 1998). In the line of designing evidence-based psychological treatments adapted to the specific characteristics of each case (APA, 2005), these data could suggest the advisability of including aspects of interpersonal therapy in those cases that present high levels of difficulty in psychosocial functioning.

As regards personality characteristics, most of the groups have high scores in inefficacy (EDI2), the

exception being BED, in which there were no patients (0%). All the diagnostic groups have significant scores in perfectionism. We were surprised to find the highest scores in the BN-P group (Blouin, Carter, Blouin, & Tener, 1994; Tobin et al., 1997) and the lowest in the EDNOS-R group, which could be attributed to short duration of the illness, the low mean age of this group and the fact that the subscale does not present adequate discriminative validity from the original version. We infer that the tendency toward perfectionism may be closely linked to the most severe clinical conditions, rather than to the specific eating symptoms characteristic of each diagnostic category. All the groups assessed presented high scores in interoceptive awareness (EDI2), and in the BN-P group we found the highest scores (Blouin et al., 1994). In fear of maturity (EDI2), the highest scores were found in the EDNOS-R group. Our data differ from those of Tobin et al. (1997), who did not find statistically-significant differences in fear of maturity for the clinical conditions BN-P, BED and EDNOS-P. We found that the majority of the groups also had high scores in asceticism (EDI2), which was especially characteristic of the groups that used purging behaviours. As it was to be expected, the tendency for impulsiveness (EDI2) was more relevant in the purging forms, and our data in this regard are consistent with those of previous studies (Fichter, Quadflieg, & Rehm, 2003; Fischer, Smith, & Anderson, 2003).

The limitations of our study, as referred to above, include the small number of participants per diagnostic group, especially in the BED group. As other authors have pointed out, the problems of obesity frequently associated with clinical cases of BED lead to individuals being referred to endocrinology services rather than to specialist units for the treatment of EDs (Striegel-Moore et al., 2001).

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