Body dissatisfaction across eating disorders: the role of anxiety and depression

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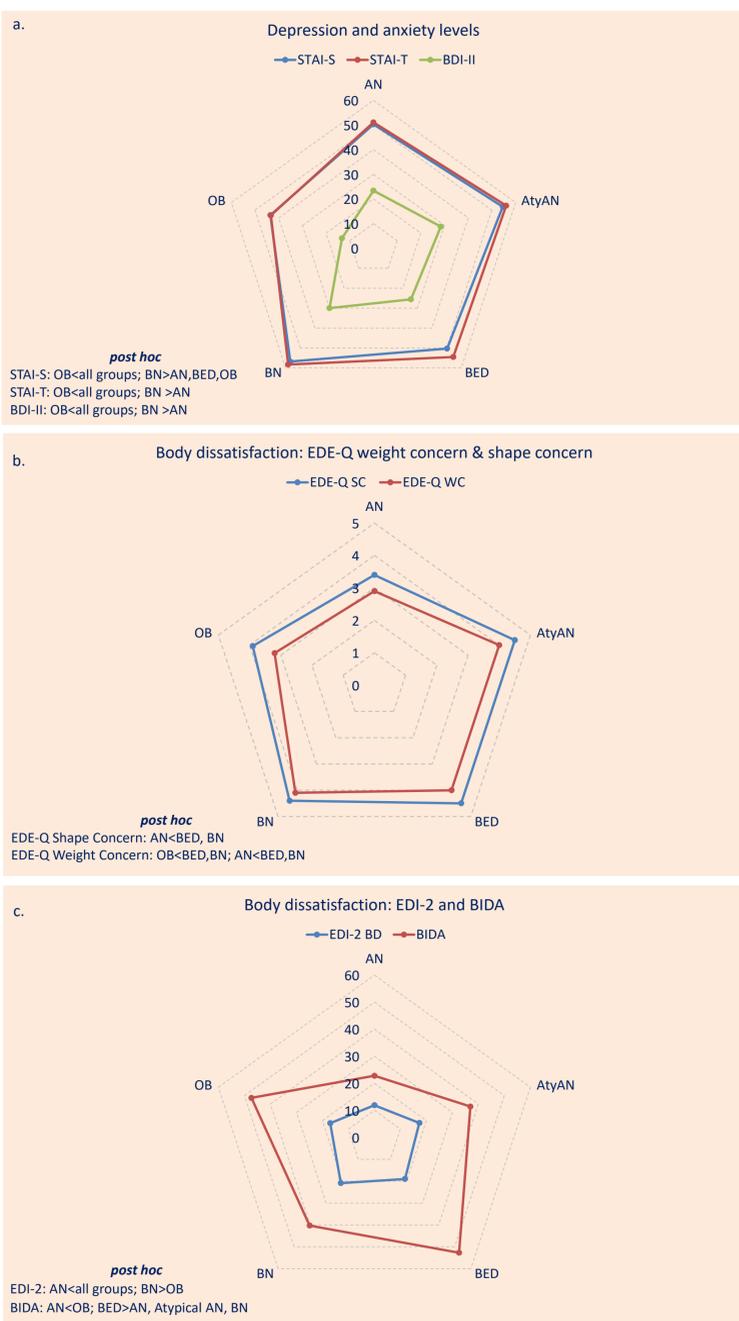
PURPOSE

Body dissatisfaction (BD) is considered a risk and maintenance factor of eating disorders (EDs)[1] and a key diagnostic criterion for anorexia nervosa (AN) and bulimia nervosa (BN), but not for binge eating disorder (BED), despite the high BD described in BED[2]. BD is bi-directionally associated with anxiety and depression, which in turn may lead to the use of maladaptive strategies to regulate negative emotional states[3]. This study aims to investigate BD in patients with EDs and a group of patients with obesity and to evaluate the impact of depression, anxiety and diagnosis on BD measures.

METHODS

Overall, 408 female patients (AN,70; atypical AN,22; BED,158; BN,58 plus a control group,100 non-BED obese patients) completed the EDE-Q, EDI-2, BIDA, BDI-II and STAI tests. A univariate GLM was run to investigate differences in BD according to diagnosis and the association with anxiety, depression, body mass index (BMI) and age.

Figure 1 . Clinical characteristics: comparison between groups and post-hoc

a. Depression and anxiety levels
STAI-S, STAI-T, BDI-II

post hoc
STAI-S: OB<all groups; BN>AN,BED,OB
STAI-T: OB<all groups; BN >AN
BDI-II: OB<all groups; BN >AN

b. Body dissatisfaction: EDE-Q weight concern & shape concern
EDE-Q SC, EDE-Q WC

post hoc
EDE-Q Shape Concern: AN<BED, BN
EDE-Q Weight Concern: OB<BED,BN; AN<BED,BN

c. Body dissatisfaction: EDI-2 and BIDA
EDI-2 BD, BIDA

post hoc
EDI-2: AN<all groups; BN>OB
BIDA: AN<OB; BED>AN, Atypical AN, BN

AN: anorexia nervosa; BDI-II: beck depression inventory-II; BED: binge eating disorder; BIDA: Body Image Dimensional Assessment; BMI: body mass index; BN: bulimia nervosa; EDE-Q: Eating Disorder Examination Questionnaire; EDI-2: Eating disorder inventory-2; OB: obese; STAI-S/T: State–Trait Anxiety Inventory.

RESULTS

The AN and atypical AN groups were younger and students, whereas the BED and obese groups were more frequently married than the other groups (**Tab. 1**). Patients with BED and BN exhibited the highest BD among all groups whereas patients with AN exhibited the lowest. Patients with BN had the highest depression and anxiety levels (**Fig. 1**). When controlling for anxiety, depression, BMI, age and diagnosis, the GLM analysis shows that all the dissatisfaction scores are higher in those with a higher depression level. Shape and weight concerns are associated with anxiety levels whereas higher BMI influences the levels of BD of the EDI-2 and BIDA and the weight concern of the EDE-Q. Diagnosis is an important variable only for the EDI-2 score (**Tab. 2**).

Table 1. Socio-demographic characteristics

		AN		Atypical AN		BED		BN		OB					
		N = 70		N =22		N = 158		N = 58		N = 100					
		mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	χ^2	p	η^2	post hoc
	Age	20.0	7.2	19.3	6.5	39.6	13.9	24.1	8.3	42.5	13.1	65.2	<.001	0.4	BED>all groups
	BMI	17.0	2.2	19.5	1.4	39.1	9.3	22.9	6.2	41.9	7.8	171.7	<.001	0.7	BED, OB>all groups
		Fr	%	Fr	%	Fr	%	Fr	%	Fr	%	χ^2	p		
Civil status	Single	67	95.7	21	95.5	61	38.6	46	79.3	26	26	131.9	<.001		
	Married	3	4.3	1	4.5	87	55.1	12	20.7	67	67				
	Divorced/Separated	0	0	0	0	9	5.7	0	0	6	6				
	Widower	0	0	0	0	1	0.6	0	0	1	1				
Education	Primary	2	2.9	0	0	8	5.0	0	0	3	3	51.1	<.001		
	Intermediate	41	58.6	13	59.1	46	29.1	19	32.8	32	32				
	Secondary	23	32.8	9	40.9	76	48.1	30	51.7	51	51				
	University or post-graduate	4	5.7	0	0	28	17.8	9	15.5	14	14				
Occupation	Students	58	82.9	19	86.4	33	20.9	33	56.9	16	16	153.9	<.001		
	Employed	8	11.4	2	9.1	67	42.4	14	24.1	36	36				
	Not employed	4	5.7	1	4.5	51	32.3	11	19	45	45				
	Retired	0	0	0	0	7	4.4	0	0	3	3				

AN: anorexia nervosa; BED: binge eating disorder; BMI: body mass index; BN: bulimia nervosa; OB: obese.

Table 2. Univariate GLM of body dissatisfaction's measures

Dependent variable		Independent variable	F	p	η^2	R^2
EDE-Q	Shape Concern	STAI-S	8.056	.005	.027	0.184
		BDI-II	14.074	.000	.046	
	Weight Concern	BMI	3.914	.049	.013	0.264
		STAI-S	8.155	.005	.027	
		BDI-II	25.75	<.001	.082	
EDI-2	Body Dissatisfaction	BMI	9.015	.003	.036	0.229
		BDI-II	1.785	.001	.044	
		Diagnosis	11.174	.001	.079	
BIDA	Body Dissatisfaction Index	BMI	36.734	<.001	.108	0.323
		BDI-II	8.155	.005	.026	

BDI-II: beck depression inventory-II; BIDA: Body Image Dimensional Assessment; BMI: body mass index; EDE-Q: Eating Disorder Examination Questionnaire; EDI-2: Eating disorder inventory-2; STAI-S: State Anxiety Inventory.

CONCLUSIONS

Depression, anxiety and BMI account for BD more than diagnosis. In fact, patients with BED, for which poor body image is not a diagnostic criterion, exhibit the highest level of BD, as do patients with BN. For this reason, BD should be considered a target in the comprehensive treatment of all patients with EDs.

References
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