Trends
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Original Article

Impairment in psychosocial functioning in patients with different subtypes of eating disorders

O prejuízo no funcionamento psicossocial de pacientes com diferentes subtipos de transtorno alimentar

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Abstract

Objective: To examine psychosocial functioning in eating disorder (ED) patients with restrictive and purgative subtypes.
Method: Forty-four adult female patients with a diagnosis of ED were divided into restrictive (RP) and purgative (PP) groups according the presence of purgative symptoms. Functioning was assessed using the Functioning Assessment Short Test (FAST) and the Global Assessment of Functioning Scale (GAF).
Results: No differences were found in total FAST scores or in specific domains between the RP (39.58±11.92) and PP (45.75±11.75) groups (p = 0.19). However, PP showed more severe functional impairment than RP in the financial domain (p < 0.01). There were no differences in comorbidity with mood disorders, depressive symptoms, or general psychiatric symptoms between the two ED subtypes.
Conclusions: The similarities found between PP and PR in overall functioning and in autonomy, cognition, work, interpersonal relationships, and leisure seem to reflect the use of an objective scale that corresponds to the clinical impression. In fact, the assessment of psychosocial functioning in ED patients using self-report instruments requires careful consideration because results may reflect the egosyntonic nature of symptoms commonly observed in these patients, particularly in the restrictive subtype.
Keywords: Eating disorders, anorexia nervosa, bulimia nervosa, psychosocial factors.

Resumo

Objetivo: Avaliar o funcionamento psicossocial de pacientes com subtipos restritivo e purgativo de transtorno alimentar (TA).
Métodos: Quarenta e quatro pacientes adultas com TA foram divididas em grupos restritivo (RP) e purgativo (PP) conforme a presença de sintomas purgativos. O funcionamento foi avaliado com a Functioning Assessment Short Test (FAST) e a Global Assessment of Functioning Scale (GAF).
Resultados: Não houve diferenças nos escores totais nem nos domínios da FAST entre os grupos RP (39,58±11,92) e PP (45,75±11,75) (p = 0,19). No entanto, o grupo PP demonstrou maior prejuízo funcional no domínio finanças (p < 0,01). RP e PP foram semelhantes em comorbidade com transtornos de humor, sintomas depressivos e sintomas psiquiátricos em geral.
Conclusões: As semelhanças encontradas entre os grupos PP e RP no funcionamento geral e nos domínios autonomia, cognição, trabalho, relacionamentos interpessoais e lazer parecem refletir o uso de uma escala objetiva que corresponde à impressão clínica. De fato, é necessário cautela ao avaliar funcionamento psicossocial em pacientes com TA com escalas autoaplicáveis, porque estas costumam refletir a natureza egossintônica dos sintomas comumente observados nesses pacientes, especialmente no subtipo restritivo.
Descritores: Transtornos alimentares, anorexia nervosa, bulimia nervosa, fatores psicossociais.

Introduction

Treatment outcome measurement in eating disorders (ED) has traditionally focused on changing behavior and improving symptoms. Patients are assessed for outcomes such as a reduction in purging behavior or the achievement of a healthy body weight rather than broader areas such as role functioning or quality of life (QoL).[1] The impact of EDs, including partial forms, on broader life functioning is well documented[2-9] and comparable to that of anxiety disorders,[4] affective disorders,[4] and schizophrenia.[9] Moreover, poor psychosocial functioning has been linked to premature death in ED.[10-12]

Among ED behaviors, the use of extreme weight-control methods, particularly self-induced vomiting, has been associated with the highest levels of impairment.[4] Patients with the restrictive type of anorexia nervosa typically report an inflated QoL early in treatment, similar to what is observed with healthy controls.[13] This observation would suggest that non-purging patients may have better functioning than those who purge. However, there is also objective evidence of adverse effects on health and functioning in restrictive forms of ED. Inflated QoL scores may be an artifact of the egosyntonic nature of symptoms in these patients, which are difficult to capture with self-report instruments.[13-15]

Most studies use generic instruments to assess health-related QoL in ED patients, such as the World Health Organization Brief Quality of Life Assessment Scale (WHOQoL-Bref)[16] and the Medical Outcomes Short Form-SF Health Survey 36 (SF-36).[17] Although valuable, these measures were originally developed to assess the impact of physical illnesses on everyday functioning, and may therefore miss important aspects of psychopathology specific to psychiatric diagnoses such as ED. To avoid these limitations, an instrument – the Clinical Impairment Assessment – has been developed to specifically assess the personal, cognitive, and social impact of ED; however, this is a self-report questionnaire, and thus subject to the limitations already mentioned.[2]

In this scenario, functioning could be a more suitable and consistent construct to measure the impact of psychopathology in ED. Assessing the impact of psychiatric disorders is important for at least two reasons: first, impairment leads people to seek help, and therefore a goal of treatment should be to reduce impairment[18]; second, the presence of clinically significant impairment is required for a diagnosis of mental disorder.[19] However, the concept of functioning is complex and involves many different domains, including the ability to work, live independently, engage in recreation, experience romantic life, and study effectively.[20] These aspects have been recently integrated in a new and easily administered scale, the Functioning Assessment Short Test (FAST), which fulfills the need for an assessment of multiple domains of psychosocial functioning in mental disorders. The FAST comprises 24 items and allows for the evaluation of six specific areas of functioning: autonomy, occupational functioning, cognitive functioning, financial issues, interpersonal relationships, and leisure time.

Considering that the aforementioned items were identified as the main problems experienced by mentally ill patients, and taking into account the performance and psychometric proprieties of the FAST instrument in subjects with bipolar disorder,[20] the aim of the present study was to examine psychosocial functioning in patients with different subtypes of ED using the FAST. Our hypothesis was that this scale could identify impairments in multiple domains of functioning in this population and reveal possible differences between the restrictive and purgative subtypes of ED.

Methods

Design and participants

A sample of female out- and inpatients with a diagnosis of anorexia nervosa, bulimia nervosa, or partial syndromes of anorexia nervosa or bulimia nervosa referred to the Adult Eating Disorders Program of Hospital de Clínicas de Porto Alegre (HCPA) and a group of healthy controls were recruited from August 2008 to August 2011.

Patients with the purgative subtype of anorexia nervosa, partial purgative ED syndrome, and bulimia nervosa formed the group of purgative patients (PP). Patients with the restrictive subtype of anorexia nervosa and partial restrictive ED syndromes composed the group of restrictive patients (RP). Healthy women formed the control group (C).

Psychiatric diagnoses were established according to criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR). A semistructured interview based on the Mini-International Neuropsychiatric Interview (MINI) – validated for use in Brazilian populations - was applied by a psychiatrist to investigate psychiatric disorders according to DSM-IV TR criteria.[21] Patients presenting neurodegenerative disorders, psychotic symptoms, or mental retardation were excluded. Healthy women were recruited among workers and students at HCPA and Universidade Federal do Rio Grande do Sul (UFRGS). Control subjects were screened to rule out history of ED or other psychiatric conditions.

All participants were informed about the study goals and were asked to sign an informed consent

form. All procedures were conducted in agreement with the Brazilian National Health Council (Resolution no. 196/1996) and with the Declaration of Helsinki. The study protocol was approved by the Research Ethics Committee of the institution.

Instruments

Clinical and sociodemographic assessment

Clinical assessment included the following scales of ED psychopathology: the Eating Attitudes Test (EAT-26),[22,23] for evaluating eating habits and dietary practices; the Body Shape Questionnaire (BSQ),[24,25] for assessing body satisfaction; and the Bulimic Investigatory Test of Edinburgh (BITE),[26,27] for evaluating purgative behavior and binge eating. EAT-26[23] and BITE[26] have been validated to Portuguese, and the BSQ[25] has been translated into Portuguese. In addition, the Symptom Checklist-90 (SCL-90)[28,29] was used to evaluate general

psychological distress, the 17-item Hamilton Depression Rating Scale (HDRS-17)[30] for depressive symptoms, and a questionnaire specifically designed to collect sociodemographic information. Although broadly used in Brazilian studies, instruments SCL-90 and HDRS-17 have not effectively validated for use in Brazilian Portuguese. Height and weight were measured as part of the intake assessment and enabled calculation of the body mass index (BMI; kg/m^2).

EAT, BITE, BSQ, and SCL-90 are self-report scales. The FAST and HDRS-17 instruments are interviewer-administered.

Functioning assessment

Impairment in role functioning was assessed using the FAST[20] and the Global Assessment of Functioning Scale (GAF).[31]

The FAST (Figure 1) is an interviewer-administered questionnaire designed to evaluate overall function

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ESCALA BREVE DE FUNCIONAMENTO (FAST)

Por favor, pergunte ao paciente as frases abaixo e responda a que melhor descreve seu grau de dificuldade.
Para responder utilize a seguinte escala: **(0): nenhuma, (1): pouca, (2): bastante ou (3): muita.**

AUTONOMIA
    1. Ser responsável pelas tarefas de casa   (0)   (1)   (2)   (3)
    2. Morar sozinho   (0)   (1)   (2)   (3)
    3. Fazer as compras de casa   (0)   (1)   (2)   (3)
    4. Cuidar-se de si mesmo (aspecto físico, higiene)   (0)   (1)   (2)   (3)

TRABALHO
    5. Realizar um trabalho remunerado   (0)   (1)   (2)   (3)
    6. Terminar as tarefas tão rápido quanto era necessário   (0)   (1)   (2)   (3)
    7. Obter o rendimento previsto no trabalho   (0)   (1)   (2)   (3)
    8. Trabalhar de acordo com seu nível de escolaridade   (0)   (1)   (2)   (3)
    9. Ser remunerado de acordo com o cargo que ocupa   (0)   (1)   (2)   (3)

COGNIÇÃO
    10. Concentrar-se em uma leitura, um filme   (0)   (1)   (2)   (3)
    11. Fazer cálculos mentais   (0)   (1)   (2)   (3)
    12. Resolver adequadamente os problemas   (0)   (1)   (2)   (3)
    13. Lembrar o nome de pessoas novas   (0)   (1)   (2)   (3)
    14. Aprender uma nova informação   (0)   (1)   (2)   (3)

FINANÇAS
    15. Administrar seu próprio dinheiro   (0)   (1)   (2)   (3)
    16. Fazer compras equilibradas   (0)   (1)   (2)   (3)

RELAÇÕES INTERPESSOAIS
    17. Manter uma amizade   (0)   (1)   (2)   (3)
    18. Participar de atividades sociais   (0)   (1)   (2)   (3)
    19. Dar-se bem com pessoas a sua volta   (0)   (1)   (2)   (3)
    20. Convivência familiar   (0)   (1)   (2)   (3)
    21. Relações sexuais satisfatórias   (0)   (1)   (2)   (3)
    22. Capaz de defender os próprios interesses   (0)   (1)   (2)   (3)

LAZER
    23. Praticar esporte ou exercícios   (0)   (1)   (2)   (3)
    24. Ter atividades de lazer   (0)   (1)   (2)   (3)

Figure 1 – Functioning Assessment Short Test (FAST) in Brazilian Portuguese

across multiple domains in psychiatric patients. The FAST was shown to be a reliable and valid measure in patients with bipolar disorder[20,32] and subjects experiencing a first psychotic episode.[33] The FAST scale consists of 24 items covering six specific areas of functioning, as follows: 1) autonomy (patient's ability to do things alone and make individual decisions); 2) occupational functioning (ability to maintain a paid job, efficiency in performing tasks at work, working in the field in which the patient was educated, and earning according to the level of the position); 3) cognitive functioning (ability to concentrate, perform simple mental calculations, solve problems, learn new information, and remember learned information); 4) financial issues (ability to manage finances and spending in a balanced way); 5) interpersonal relationships (relations with friends, family, involvement in social activities, sexual relations, and the ability to defend ideas and opinions); and 6) leisure time (ability to perform physical activities and to enjoy hobbies).

The FAST was developed by the Bipolar Disorder Program of the University of Barcelona Hospital Clinic. Items are rated using a 4-point scale ranging from 0 (no difficulty) to 3 (severe difficulty), with a total score ranging between 0 and 72 (higher scores indicate poorer functioning). The original authors suggested a cut-off point of ≥ 11 in Spanish subjects with bipolar disorder as a measure of disability, as it improved the discriminant properties of the test to a sensitivity of 72% and a specificity of 87%.[20] One hundred outpatients with bipolar disorder and one hundred controls were recruited for the FAST validation study in Brazil.[32] That study showed high internal consistency (Cronbach's alpha was 0.95 for the whole scale and 0.82 or higher for the subscales). Test-retest reliability for total FAST scores was excellent (r = 0.90; p < 0.001). Concurrent validity was based on functional impairment according to the GAF scale, which assesses only overall functioning (higher scores on the GAF suggest better functioning).[32] Total FAST scores were strongly correlated with GAF scores (rho = -0.70, p < 0.001). The FAST scale is available in several languages, including Portuguese, as used in our sample. A single interviewer (C.M.M.), a psychiatrist with 8 years of training and clinically experienced with scales, examined all patients and controls.

Statistical analysis

The Shapiro-Wilk test was used to investigate data distribution in the sample. Symmetric variables were expressed as means and standard deviation (SD). Asymmetric variables were expressed as medians and interquartile range (Q1-Q3). For asymmetric variables, data were transformed using a logarithmic function to allow the use of parametric tests and thus modify the distribution of variables.

Sociodemographic and clinical variables (comorbidities) were evaluated using descriptive statistics (frequency and percentage).

Age, BMI, scores obtained in EAT, BSQ, BITE, SCL-90, FAST total, all FAST domains, and GAF variables were compared across the PP, RP, and C groups using the Kruskal-Wallis test. Age at onset of ED was analyzed using Mann-Whitney's test, and HDRS-17 scores were compared between PP and RP using a t test. Total FAST scores were analyzed using one-way analysis of variance (ANOVA).

Demographic data and comorbidity with psychiatric disorders were analyzed using the chi-square test and Fisher's exact test. Internal consistency of FAST scores was analyzed using Cronbach's alpha. The correlation between FAST and GAF scores was calculated using Spearman's correlation coefficient.

All analyses were performed using the Statistical Package for the Social Sciences (SPSS), version 18.0. Statistical significance was set at p < 0.05 (95% power).

Results

A total of 44 ED patients were recruited, namely, 12 RP (eight with restrictive anorexia nervosa and four with a partial syndrome of restrictive anorexia nervosa) and 32 PP (10 with purgative anorexia nervosa, 19 with bulimia nervosa, and three with partial purgative syndromes). The control group included 37 healthy women.

As shown in Table 1, there were no significant age differences across the three groups. The sample comprised 90.6% of outpatients in the PP group and 58.3% of inpatients in the RP group. The majority of ED patients (RP and PP groups) had completed high school. Most RP were single, and 43.8% of PP had a partner. Ninety-eight percent of the total sample was Caucasian.

As expected, BMI was significantly lower in the RP group when compared with the other two groups (p < 0.01). The two groups of patients did not show significant differences in terms of age at onset, age at diagnosis, or HDRS-17 scores. EAT and SCL-90 scores were significantly lower in controls (p < 0.01), but similar between the PP and RP groups. BITE and BSQ scores were significantly higher in the PP group when compared with the RP and C groups (p < 0.01) (Table 1).

The internal consistency coefficient obtained for FAST in our sample was high, with a Cronbach's alpha of 0.892 for the total scale, indicating that the items were sufficiently homogeneous for this population. A strong

Table 1 – Demographic and clinical characteristics of subjects

Variable	PP (n = 32)	RP (n = 12)	C (n = 37)	p
Age*†	30 (21.5-44.75)	30 (21.25-44)	24 (20.5-31)	0.09
Education‡				
Incomplete elementary school	4 (12.5%)	1 (0.83%)	0 (0%)	0.001
Complete elementary school	8 (25%)	1 (0.83%)	0 (0%)	
Complete high school	18 (56.3%)	8 (67.7%)	22 (59.5%)	
Complete college	2 (6.3%)	2 (16.7%)	15 (40.5%)	
Household income‡§				
< US$ 320	6 (18.8%)	3 (25%)	0 (0%)	0.001
US$ 321-1600	24 (75%)	7 (58.3%)	3 (8.1%)	
> US$ 1601	2 (6.3%)	2 (16.7%)	34 (91.9%)	
Marital status‡				
Single	18 (56.3%)	9 (75%)	30 (81.1%)	0.074
With partner	14 (43.8%)	3 (25%)	7 (18.9)	
BMI (kg/m²)*†	22.09 (19.6-27.31)	17.90 (16.29-19.58)	20.82 (20.12-22.15)	PP, C > RP
Age at onset*‖	15.5 (14-22)	18.5 (13.75-31.5)		0.36
Age at diagnosis¶‖	27.84 (12.19)	28.08 (10.49)		0.37
Rating scales*				
EAT-26†	35 (26-39)	12.25 (4.25-31.5)	5 (3-10)	PP, RP > C
BITE†	21.5 (14.25-25)	7 (5-16)	4 (2-8)	PP > RP, C
BSQ†	161.5 (115.75-186)	62 (45.5-151.5)	61 (49-80)	PP > RP, C
SCL-90†	185 (134-214.4)	111 (46.25-206.25)	20 (7.5-36.5)	PP, RP > C
HDRS-17‖	16.63 (7.05)	16.42 (8.07)		0.83

Data expressed as absolute frequency (percentage), * median (interquartile range: Q1-Q3), or ¶ mean (standard deviation).
Data analyzed using † ANOVA, ‡ the chi-square test, or ‖ Student's t test.
§ Exchange rate at the time of the study: US$ 1.00 = R$ 2.00.
BITE = Bulimic Investigatory Test of Edinburgh; BMI = body mass index; BSQ = Body Shape Questionnaire; C = control group; EAT-26 = Eating Attitudes Test; ED = eating disorders; HDRS-17 = 17-item Hamilton Depression Rating Scale; PP = purgative patients; RP = restrictive patients; SCL-90 = Symptom Checklist-90; SD = standard deviation.

Table 2 – Scores obtained for FAST total, FAST domains, and GAF

Variable	PP	RP	C	Tukey*
FAST autonomy	6 (3.25-7.75)	6 (3.25-8.75)	1 (0-2)	PP, RP > C
FAST work	14.5 (9-15)	15 (5.25-15)	1 (0-2)	PP, RP > C
FAST cognition	10 (6-13)	6.5 (4-10.75)	2 (1-5)	PP, RP > C
FAST finances	5 (3-6)	1.5 (0.25-2.75)	1 (0-2)	PP > RP, C
FAST relationships	10.5 (8-13)	11 (5.25-16.5)	1 (0-3)	PP, RP > C
FAST leisure	4.5 (2-6)	2 (2-3)	1 (0-2)	PP, RP > C
FAST total†	45.75 (11.75)	39.58 (16.76)	8.66 (5.18)	PP, RP > C
GAF total	40.5 (31-45)	44.5 (32-57.25)	95 (90.5-100)	PP, RP > C

Data expressed as median (interquartile range: Q1-Q3) or † mean (standard deviation).
C = control group; FAST = Functioning Assessment Short Test; GAF = Global Assessment of Functioning Scale; PP = purgative patients; RP = restrictive patients.
* p < 0.05.

and significant correlation was also observed between FAST and GAF scores (r = -0.89; p < 0.01), i.e., patients with poor functioning obtained high scores on FAST and low ones on GAF.

No differences were found in total FAST scores between the RP and PP groups. However, PP scores were higher than RP ones in the financial domain (p < 0.01), revealing a more severe impairment in this area among PP (Table 2). As expected, mean FAST scores were significantly higher in ED patients than in healthy subjects in all domains (autonomy, work, cognition, finances, relationships, and leisure).

The prevalence of comorbidities in the RP and PP groups was high, as shown in Table 3. Only the PP group presented indications of alcohol and substance abuse. Moreover, the proportion of subjects with a history of suicide attempts was significantly higher in the PP group. Additionally, the PP group showed a statistical tendency toward having more phobias (agoraphobia, specific phobia, and social phobia) than the RP group. Other measures were not significantly different between the groups.

Table 3 – Comorbidities in restrictive and purgative eating disorders (Fisher's exact test)

	PP (n = 32) %	RP (n = 12) %	p
Major depression	56.2	50	0.74
Dysthymia	53.1	58.3	1
Suicide attempts	65.6	25.0	0.02
Panic disorder	59.4	41.7	0.32
Phobias	65.6	33.3	0.08
Agoraphobia	50	33.3	0.49
Social phobia	40.6	25	0.48
Specific phobia	31.3	16.7	0.46
Obsessive compulsive disorder	34.4	41.7	0.73
Post-traumatic stress disorder	12.5	8.3	1
Generalized anxiety	37.5	41.7	1
Substance abuse	12.5	0	-
Alcohol abuse	25.0	0	-
Somatoform disorders	43.8	41.7	1

PP = purgative patients; RP = restrictive patients.

Discussion

Our study demonstrated that patients with both the restrictive and purgative subtypes of ED showed similar overall impairment and presented deficits in multiple domains of functioning. However, ED patients with the purgative subtype (PP) revealed a more severe degree of impairment in the financial domain.

These results confirm findings of previous studies demonstrating that individuals with ED (including partial forms) show poor psychosocial adjustment[8] and impairment in a number of domains, including interpersonal relationships, family functions, work, and finance. Furthermore, follow-up studies have shown that impairment in social functioning associated with bulimia nervosa[34] and anorexia nervosa[35] may persist even after remission of ED psychopathology and constitutes a significant predictor of mortality.[11]

Patients with restrictive subtypes of ED are known to have a tendency to underestimate the impact of their illness on daily activities and often continue to work and maintain an active lifestyle even at extreme levels of starvation.[6,15] Some authors have reported better QoL scores for patients with the restrictive type of anorexia than patients with all other types of ED; the same patients also reported less subjective impairment. Even after controlling for general psychological distress, their scores were similar to those of the general population.[13,14,36] These findings are not surprising, considering that these patients may perceive weight loss as an improvement in their QoL[6] and that often the central purpose of these patients' lives is the maintenance of their emaciated state.[13] The results of those studies can be explained by the egosyntonic nature of symptoms commonly observed in restrictive subtypes of ED, underscoring the importance of using instruments that objectively assess functioning rather than relying on the patients' reports of subjective feelings. In fact, self-reported instruments and QoL scales may not be reliable in these patients because they may reflect the severity of their psychopathology. In the present study, patients in the RP group scored similar to controls on BSQ, suggesting that patients with restrictive ED were as "satisfied" with their body shape as healthy women. Also, even though our RP reported high levels of restraint food intake upon clinical evaluation, they scored lower on the EAT than expected. In contrast, PP showed higher EAT and BSQ scores, probably because they had a greater awareness of their ED symptoms.

With the application of an objective scale such as the FAST, the restrictive and purgative subtypes of ED displayed similar levels of overall functioning impairment. Impacts on specific areas of functioning, such as autonomy, work, cognition, relationships, and leisure, were very similar between the two subtypes of ED. The PP group showed a more severe impairment in the financial domain, which may be explained by higher levels of impulsivity. Additionally, the PP group showed significant comorbidity with alcohol and drug abuse and more frequently showed a history of suicide attempts.

Consistent with other studies investigating women with ED,[37,38] most of our ED patients had at least one comorbid psychiatric diagnosis, with anxiety[39] and affective disorders[40] being the most common ones.[7] Our PP and RP groups showed similar rates of comorbidities with major depression, panic disorder, obsessive compulsive disorder, and somatoform disorders.

Considering that ED patients with the purgative subtype tend to have more egodystonic symptoms than restrictive ED patients, the fact that the vast majority

of individuals enrolled in our treatment program (Adult Eating Disorders Program, HCPA) presented with the purgative subtype of ED may not be due to chance. Furthermore, the fact that there were more inpatients in the RP group may reflect their resistance to seek specific outpatient treatment.

To our knowledge, this is the first study to apply the FAST in individuals with ED. This instrument is a simple, rapid, interviewer-administered scale that assesses functional impairment while focusing on the main difficulties experienced by patients suffering from mental disorders. Studies using the GAF scale have also observed functional impairment in patients with restrictive subtypes of ED,[7,8] but GAF scores do not reveal impacts on specific areas of functioning. Higher scores on the FAST and lower scores on the GAF represent higher levels of disability,[20] and a negative correlation between these scales was also demonstrated in our sample. A potential advantage of the FAST over other measures designed specifically to evaluate impairment in ED patients is the potential to compare their functioning to that of patients with other psychiatric disorders.

The main limitation of our study was the small sample size, particularly in the RP group. Also, the proportion of out- and inpatients differed between the two groups. Moreover, RP and PP groups differed in relation to diagnosis (anorexia nervosa and bulimia nervosa), and some results may reflect this difference. Differences in household income and education level could also be an issue; however, this may be a consequence of better functioning in individuals without psychiatric disorders.

Conclusion

Our results highlight the importance of evaluating multiple domains of functioning in ED patients using an objective instrument. The findings can be used for targeted treatment planning and to enhance the patients' motivation to change. Our study also suggests that new treatment strategies may be needed to attain better results in functional outcomes in ED patients.

Acknowledgements

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