Data on the management of eating disorders on the level of outpatient treatment in Italy in the Abruzzo Region

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Abstract.
PURPOSE: To monitor improvements and follow-up of patients with EDs (Eating Disorders), and BED (Binge Eating Disorder) in the Regional Reference Center for the Physiopathology of Nutrition of Teramo, Italy.
METHODS: All the access for EDs (diagnosed according to DSM-IV) were recorded at first visit and follow up. The diagnoses and characteristics of patients from the Teramo area, who enjoy easier access to the service were compared to those of patients from other local health authorities. The degree of improvement in BMI between the first and last appointment of patients with AN (anorexia nervosa), and the average time of treatment, were noted. Microsoft Excel was used for data storing and processing. Statistical analysis was performed by the X-Lstat software.
RESULTS: Of the 169 patients registered, 90.5% were female. The average age of patients followed by the Centre for eating disorders was 29.3 (60.9% of the cases were in the youth age bracket). In local patients, the AN is corrected with greater success and in less time compared to cases of AN in active mobility.
CONCLUSIONS: This study shows that an integrated multidisciplinary outpatient service provides continuity of care and more support to patients coming from the province. The data demonstrate that the ability of the outpatient structure to intercept early cases and offer effective therapeutic itineraries is directly related to its accessibility. These data provide valuable references for a more rational and thoughtful use of available resources and to begin the development of a registry of EDs in Abruzzo's region in center of Italy.

Keywords: Eating disorders, anorexia nervosa, bulimia nervosa, outpatient service, management

1. Introduction

To date, there is no single model of treatment for Eating Disorders (EDs) and Binge Eating Disease (BED); researchers are forced to seek a multifactorial model to explain disorders that originate in complex genetic, biological, familial and environmental factors as well as in temperamental, cognitive, psychodynamic and personality characteristics [1].

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Added to these factors are those of maintenance, as well as historical, cultural and environmental ones [2].

These pathologies are constantly increasing and present a serious problem for public health because of the high rates of medical and psychiatric comorbidity, the social cost, and the tendency to become chronic [3, 4]. The risk of death is not negligible, and unfortunately, the contribution of the mass media in stereotyping certain behaviors seems to be decisive.

This is a silent epidemic because those struck are often egosyntonic to the disease and they must elaborate a request for help in order to be treated, while a high number of patients with eating disorders remain undiagnosed and do not receive treatment [5]. The situation in Europe shows that onset of eating disorders occurs mainly between 10 and 20 years [6–8]. Social class, occupational status and education were not associated with an increased risk of reporting an EDs; it has also been observed that young women who have suffered violence and child abuse, are likely to develop AN and BN (bulimia nervosa) [9].

Those who desire treatment often cannot find adequate treatment centers in their area or levels of care appropriate to their psychopathology; much remains to be done so that the guidelines approved by the scientific community attain effective application [10].

A long-term survey (7 years) on the population of Sesto Fiorentino (Florence, Italy) was conducted to confirm the usefulness of the assistance service. 50% of those who had a diagnosis of EDs were completely healed, 26.9% were currently affected by an ED, 23.1% showed a persistent disturbance of the body image and/or the presence of compensatory behaviours [11].

For all these reasons, beginning on October 1, 2009, the Regional Centre of Reference for the Physiopathology of Nutrition (CRRFN) of Giulianova of the ASL ("Azienda Sanitaria Locale," the Local Health Authority) of Teramo in central Italy began the registration of all appointments for eating disorders, both initial visits and follow ups, in order to have real data on turnover and the increasingly problematic nature of the alimentary pathologies seen on the outpatient level, and to begin an Eating Disorders Register for the Abruzzo Region [12–15]. The CRRFN is the only integrated multidisciplinary public structure that operates in the Abruzzo Region on the level of outpatient service. Several studies highlight that multidimensional multidisciplinary approach including nutritional intervention and psycho-physical rehabilitation could be more effective in the long-term outcome [16, 17]. The aim of the present work is to have a picture of the prevalent diagnoses of EDs, to identify the differences in diagnosis and outcome between patients from the Teramo province who benefit from the nearby CRRFN, and those from other areas of the region or from other regions.

2. Materials and methods

The study examined data from October 1, 2009 to December 31, 2010, and identified 169 cases with eating disorders, using the diagnostic criteria of Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM IV). The DSM-IV classifies Eating Disorders in anorexia nervosa (AN), bulimia nervosa (BN) and Eating Disorders Not Otherwise Specified (EDNOS); BED are classified in Appendix B of DSM-IV, and now proposed to be included in DSM-V in the Eating Disorders section [18–21].

Before the visit, a questionnaire was administered to know, for example, age, eating habits, relationship with food, sleep quality, etc . . . Subsequently, the physician, taking into account the answers to the questionnaire, visited the patient, collected weight, height and BMI, evaluated the distribution of lean and fat mass, the lifestyle, eating habits and defined the metabolic activity (hypokinetic, normokinetic, hyperkinetic) with the instrument SenseWear PRO3 Armband Sensormedics®. All ratings allowed to establish the diagnosis and, consequently, the therapy.

The patient was looked after by a team composed of a doctor, a dietitian (nutrition education tailored to the various pathological situations) and a psychologist (support talks and/or psychotherapy, made simultaneously with the care of the body).

Weight, height and BMI parameters were collected both during the first and the last appointment; the mean and the standard deviation that was approximate at two decimal numbers were calculated.

Patient data were entered into a database, and the following variables were collected: gender, age, education (degree), marital status, work activity, diagnosis, the name of the person who sent the patient for care, provenance and 'active mobility' [in which the patient comes from a different local health authority, which pays the Teramo

health authority for the services rendered]. The degree of improvement in BMI between the first and last appointment of patients with AN, and the average time of treatment, were noted. Written informed consent was obtained from all participants.

Diagnoses for patients from the local health authority of Teramo province were compared with those of CRRFN patients who live in areas covered by other regional and extra-regional health authorities, in order to gain a picture of the alimentary pathologies followed by the CRRFN in the various phases of treatment (beginning, management, and follow up).

Microsoft Excel was used for data storing and processing. Statistical analysis was performed by the X-Lstat software [22]. The chi-square test was employed and statistical significance was expressed using the *P* value expressed to 3 digits.

3. Results

Of the 169 patients registered, 14 were at the beginning of treatment (with follow ups at fewer than 3 months from the initial visit), 16 had been in treatment for 3 to 6 months, 36 from 6 months to 1 year, 37 between 1 and 2 years, and 61 over 2 years. The diagnostic criteria used were those of DSM IV, still in vigor, which the greatest number of patients among the EDNOS, which includes patients who are very heterogeneous in symptomatology and psychopathology [23–25]. Fully 90.5% of the patients with eating disorders were female.

The average age of patients followed by the Centre for eating disorders was 29.3 years. However (see Fig. 1), at least 60.9% of the cases were in the youth age bracket, with the highest peak in the bracket from 14 to 18 years (25.4%), confirming that eating disorders are a true scourge of the adolescent/youth bracket, while 39.0% of the cases were in the adult bracket, with a significant peak in the "39–43 years" bracket (15.4%).

Analyzing the educational level, the fact that there is a prevalence of young patients is seen in the statistics that emerged: 41.4% have finished only middle school, 41.4% high school, and 2.3% elementary school, while 10.6% were college graduated.

Again, given the size of the youngest age bracket, 62.7% of patients were unmarried, 30.1% married, and 4.1% separated.

The employment status of patients affected by eating disorders is notably conditioned by the high number of students, which makes the unemployment rate seem to be 17.1%, but once the student population is eliminated from the sample, the percentage spikes to 35.6%, a much higher value than the most pessimistic forecasts on unemployment among the young in our country.

Given that the Teramo local health authority is the only regional authority endowed with an integrated multidisciplinary outpatient service dedicated to alimentary pathologies, we explored whether this opportunity facilitates early diagnosis and promotes improved treatment and lower management costs [16].
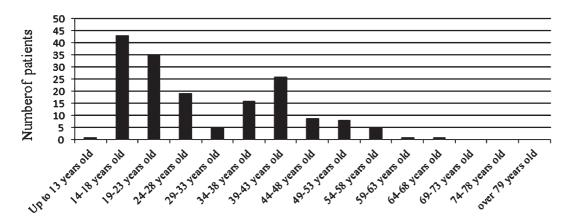

Fig. 1. Age brackets of patients analyzed

To this end, we compared the diagnoses and characteristics of patients from the Teramo area, who enjoy easier access to the service, to those of patients from other local health authorities who use this service (see Table 1).

The data on the Teramo province population indicate the prevalence of EDNOS (43.0% = 40 cases) and BED (36.5% = 34 cases) compared to AN (15.0% = 14 cases) and BN (5.3% = 5 cases), while the diagnoses prevalent for patients from outside the local health authority had a reduction of EDNOS cases (from 43.0% to 35.5% = 27 cases), a reduction of BED (from 36.5% to 19.7%=15 cases), a notable increase of AN (from 15.0% to 25.0% = 19 cases) and a similarly important increase of BN (from 5.3% to 20.5% = 15 cases).

These differences between diagnoses on the basis of provenance are statistically significant ($p < 0.01$).

In order to have an indicator of the evolution of treatment between the first and last appointment, we chose BMI, because it is a good indicator in AN, where it indicates a significant change ($p < 0.049$) (Table 2a).

We also evaluated the provenance of patients recorded in the database of CRRFN (see Table 2b), and were able to obtain information on active mobility for treatment of eating disorders, which was equal to 45% (35.5% intraregional; 9.5% extra-regional).

In order to have data on the diversities of the therapeutic itinerary between patients from the Teramo province and those in active mobility (Table 3) we used the sample of patients with diagnoses of AN, and found that the CRRFN

Table 1

Comparison of diagnoses given to patients from the Teramo province and those from other local health authorities

	% Patients from Teramo province	% Patients from other health authorities
BED	36.5	19.7
AN	15.0	25.0
EDNOS	43.0	35.5
BN	5.3	20.5

BED, Binge Eating Disorder; AN, Anorexia Nervosa; EDNOS, Not Otherwise Specified Eating Disorders; BN, Bulimia Nervosa.

Table 2

Diagnosis and provenance of patients. a) Type of diagnosis, averages and standard deviations of age, weight, height, BMI variations between the first and last appointment; b) Home province and active mobility

	Nr.	%	Age (years)		Wt (kg)		Ht (m)		BMI first appointment		BMI last appointment	
a) Diagnosis												
AN	33	19.5	21.7	+7.3	43.4	+9.8	1.6	+0.1	15.9	+3.0*	17.9	+3.2*
				−7.3		−9.8		−0.1		−3.0*		−3.2*
EDNOS	67	39.6	27.2	+12.5	62.7	+22.9	1.6	0.1	23.4	+8.1	24.2	+7.6
				−12.5		−22.9		−0.1		−8.1		−7.6
BN	20	11.8	29.5	+12.3	57.3	+17.0	1.6	+0.1	22.3	+6.5	23.1	+6.0
				−12.3		−17.0		−0.1		−6.5		−6.0
BED	49	28.9	37.3	+11.7	106.7	+24.6	1.6	+0.1	39.3	+7.9	38.8	+7.6
				−11.7		−24.6		−0.1		−7.9		−7.6
b) Home province												
Teramo	93	55.0			Province mobility 55%							
Pescara	38	22.4			Intra-regional mobility 35.3%							
Chieti	16	9.4										
L'Aquila	6	3.5										
Ascoli Piceno	9	5.3			Extra-regional mobility 9.4%							
Others	7	4.1										

Nr, number; Wt, weight; BMI, Body Mass Index; AN, Anorexia Nervosa; EDNOS, Not Otherwise Specified Eating Disorders; BN, Bulimia Nervosa; BED, Binge Eating Disorders. *$p < 0,049$.

Table 3

Different seriousness and length of the AN cases diagnosed in the province of Teramo, compared to those outside province

		Anorexia
Teramo health authority	Number of patients	14
	Age (Years)	21.4 ± 6.4
	Weight (Kg)	44.0 ± 5.4
	BMI I	16.4 ± 1.3
	BMI II	19.0 ± 4.0
	Average treatment time (years)	1.2 ± 1.0
Active mobility	Number of patients	19
	Age (Years)	22.4 ± 8.0
	Weight (Kg)	41.3 ± 10.0
	BMI I	14.5 ± 1.9
	BMI II	17.2 ± 2.9
	Average treatment time (years)	2.0 ± 1.1

BMI: Body Mass Index.

Table 4

Classification of patients of the Teramo health authority and those outside Teramo, on the basis of the degree to which the patient is underweight

BMI	Number Teramo* province	Number active mobility*	Amount underweight
≤ 15.9	6*	17*	Gravely underweight
16.0–16.9	9*	5*	Moderately underweight
17.0–18.5	10	7	Slightly underweight
≥ 18.5	68	44	Normal weight

BMI, Body Mass Index; $^*p < 0.037$.

manages to intercept less grave cases, defined in terms how underweight the patient was at the first appointment (BMI $I = 16.5 \pm 1.3$) in patients from the Teramo province, compared to patients from outside province, who were more seriously underweight (BMI $I = 14.5 \pm 1.9$).

In addition, in local patients, the AN is corrected with greater success (BMI $II = 19.0 \pm 4.0$) and in less time (1.2 years ± 0.97), compared to cases of AN in active mobility, which also present a notable improvement on the initial situation (BMI $II = 17.2 \pm 2.9$), but proportionally inferior and over a longer time (1.9 years ± 1.1).

Next, classifying the BMI according to the SINPE (in Italian, Societá Italiana di Nutrizione Artificiale e Metabolismo – Italian Society of Artificial Nutrition and Metabolism) guidelines for artificial hospital nutrition [26] and verifying the number of patients for each BMI level evaluated, we discover (Table 4) that 17 out-of-province patients, compared to 6 of the Teramo province, had gravely underweight body mass indices.

4. Discussion

Data of the present research offer a portrait of the CRRFN outpatient care for patients with eating disorders. These data highlighted how the integrated multidisciplinary outpatient service affords long-term therapeutic continuity, offering both a filter and an indispensible complement to residential rehabilitative stays.

In fact, out of 169 patients cared for by the CRRFN during the study period, fully 37 patients had higher follow up at 1 year, and 61 patients at 2 years.

This fact shows how many eating disorders, even though improved, continue to require follow up to reinforce the stability of the recovery, prevent relapse, and also prevent the risk of progressive weight increase. Of particular note there are some facts that can help us understand the outpatient phenomenology of these disorders:

1) most cases belong to the adolescent-youth age bracket, according with literature [27–30];
2) almost all patients with eating disorders were female, in line with the data in the literature [31–37];
3) of those of the population with eating disorders in working age, one third are unemployed;
4) the high percentage of EDNOS patients is a very heterogeneous group;
5) the fact that about 50% of patients come from other local health authorities to an outpatient structure that is often distant from their homes, and with a notable waiting list, indicates the evident difficulty of patients with eating disorders to receive care due to the dearth of services offered;
6) of the patients from the Teramo province, most were EDNOS, together with a lower percentage of AN and BN patients, in contrast to the data on patients from outside the province. The percentage of anorexic patients from the province of Teramo is lower probably because of the proximity of the CRRFN, specialized in the treatment of eating disorders, and this significantly reduces the delay in medical diagnosis. For the same reason we found a reduction of cases of anorexia and bulimia and an increase in DANAS compared with patients of other provinces (higher number of AN and BN cases);
7) the fact that 36.5% of the Teramo province patients were BED, compared to 19.7% from outside the province, indicates the advantage of nearby outpatient service in providing therapeutic continuity in obese patients who also need psychotherapy, which is difficult to manage for patients from outside the province;
8) anorexic patients from the Teramo province began treatment with higher BMIs and show better recovery in a shorter time, compared to patients from outside Teramo. Patients of Teramo province have a substantial improvement of the initial situation, most likely because the cases are caught early. Furthermore, therapeutic compliance is probably greater due to the accessibility to the CRRFN, which promotes greater adherence to therapeutic continuity. This is one reason that leads us to suggest the need for an integrated outpatient service for each province;
9) selecting the patients who are gravely underweight, according to the SINPE guidelines [26], one notes that most patients come from outside the Teramo province. One reason that may explain this situation is the delay in diagnosis: subjects from Teramo province come earlier to the CRRFN, compared to outside patients who arrive later to the center, with a lower BMI.

It is interesting to note how the higher presence of EDNOS and the lower presence of anorexia and bulimia nervosa among patients of the Teramo province, compared to patients from outside the province (see point 6), show that more patients with early or subliminal eating disorder are intercepted to a greater degree in the province of Teramo.

Similarly, the high number of BED cases compared to cases from outside the province (see point 7) shows the advantage of the presence of the outpatient service in affording structured long-term follow up, which is effective in preventing the further evolution of BED, which often resolves into great obesity and the need for bariatric surgical therapy.

One might speculate that the difference on outcome between patients from Teramo province and outside could be linked to the nearness of the multidisciplinary outpatient service. This consideration is in line with the Ministerial Project "Best Practices in Care Eating Disorders" [38].

5. Conclusions

Eating disorders are seriously problematic for society, especially for the younger generations. All data underline the direct relationship between the ease of access to services and the outpatient structure's efficacy in intercepting early cases and the success of its therapeutic processes. We can add that the data on the length of treatment of AN cases clearly shows that the greatest problem in managing alimentary disorders is represented by the therapeutic continuity and by long-term follow up. Outpatient services respond well to these decisive needs for the quality and effectiveness of treatment, but unfortunately, precisely for this reason, have long waiting lists and difficulty in admitting new patients.

The datum on active mobility is very eloquent and confirms the regional importance of the CRRFN, but also indicates the lack of services for eating disorders on the regional scale, given the prevalence of admittance of outside patients with more advanced clinical and psychopathological conditions.

These data allow us to understand the importance of outpatient services dedicated to eating disorder. These services, especially if evenly distributed throughout the region (at least one per province) could produce substantial savings in health care costs (facilitating early diagnosis and treatment, avoiding inappropriate hospitalization, ensuring continuity of care and quick enhancements/treatments).

In our opinion, building a network at national and/or international level (Eating Disorder Registers) could bring more precise information about the long-term management of these diseases. A register would be a real possibility to early solve less severe cases (avoiding the subsequent increase in hospitalizations and costs) and to deal with cases diagnosed in a collaborative dynamics. Finally, a register could promote a more rational and well-considered use of resources and optimize the clinical work of medical staff.

Conflict of interest disclosure

The Authors warrant no conflicts of interest associated with the publication of the article.

References

[1] Dalle Grave R. Eating disorders: Progress and challenges. Eur J Intern Med. 2011;22:153-60.

[2] La Marra M, Sapuppo W, Caviglia G. Caratteristiche temperamentali e caratteriali nell'obesitá in adolescenza. Psichiatria dell'infanzia e dell'adolescenza. 2009;76:225-36.

[3] Stuhldreher N, Konnopka A, Wild B, Herzog W, Zipfel S, Lowe B, et al. Cost of illness studies and cost-effectiveness analyses in eating disorders: A systematic review. Int J Eat Disord. 2012;45:476-91.

[4] Stuhldreher N(1), Wild B, König HH, Konnopka A, Zipfel S, Herzog W. Determinants of direct and indirect costs in anorexia nervosa. Int J Eat Disord. 2014; doi: 10.1002/eat.22274 [Epub ahead of print].

[5] Cuzzolaro M. Anoressie e bulimie, un'epidemia del nostro tempo. Il mulino, Bologna, 2004.

[6] Preti A, Girolamo GD, Vilagut G, Alonso J, Graaf Rd, Bruffaerts R, Demyttenaere K, Pinto-Meza A, Haro JM, Morosini P, ESEMeD-WMH Investigators. The epidemiology of eating disorders in six European countries: Results of the ESEMeD-WMH project. J Psychiatr Res. 2009.

[7] Smink FR, van Hoeken D, Hoek HW. Epidemiology of eating disorders: Incidence, prevalence and mortality rates. Current Psychiatry Rep. 2012;14:406-14.

[8] Herpertz-Dahlmann B, Buhren K, Seitz J. Anorexia nervosa in childhood and adolescence: Course and significance for adulthood. Nervenarzt. 2011;82:1093-99.

[9] Favaro A, Ferrara S, Santonastaso P. The spectrum of eating disorders in young women: A prevalence study in a general population sample. Psychosomatic medicine. 2003;65(4):701-8.

[10] Donini LM, Cuzzolaro M, Spera G, et al. Obesity and eating disorders. Indications for the different levels of care. An Italian Expert Consensus Document. Eat Weight Disord. 2010;15(1-2-Suppl):1-31.

[11] Faravelli C, Ravaldi C, Truglia E, Zucchi T, Cosci F, Ricca V. Clinical epidemiology of eating disorders: Results from the Sesto Fiorentino study. Psychotherapy and psychosomatics. 2006;75(6):376-83.

[12] Arata A, Battini B, Chiorri C, et al. Indagine sulle abitudini alimentari e sui fattori di rischio personali per l'esordio dei DCA in un campione di studenti genovesi: Suggerimenti per la prevenzione primaria. Quaderni Italiani di Psichiatria. 2008;27:92-102.

[13] Ferro AM, Villani S, Buscaglia G, et al. Mondo Giovanile: Una ricerca sui disturbi del comportamento alimentare e sociale. Infanzia e Adolescenza. 2006;5:170-8.

[14] Sukkar SG, Foppiani L, Campostano A. Regional Study Group. Management and treatment of eating disorders in an Italian region. Eat Weight Disord. 2005;10:204-9.

[15] Ferro AM, Cuccurullo L, Marinoni A, et al. Indagine conoscitiva sulla diffusione dei disturbi del comportamento alimentare e del disagio negli adolescenti dell'A.S.L. di Savona 2002. A.S.L. 2 Savonese, Pavia, 2003.

[16] Donini LM, Cuzzolaro M, Spera G, et al. Obesity and eating disorders. Indications for the different levels of care. An Italian expert consensus document. Eat Weight Disord. 2010;15(1-2 Suppl):1-31.

[17] Donini LM, Cuzzolaro M, Gnessi L, Lubrano C, Migliaccio S, Aversa A, Pinto A, Lenzi A. Obesity treatment: Results after 4 years of a Nutritional and Psycho-Physical Rehabilitation Program in an outpatient setting. Eat Weight Disord. 2014. [Epub ahead of print].

[18] American Psychiatric Association. Diagnostical and Statistical Manual of Mental Disorder, 4th Edition (DSM-IV). APA Press, Washington DC, 1994.

[19] Walsh BT. Eating disorders in DSM-V: Review of existing literature (Part 1). International journal of eating disorders. 2009;42(7):579-80.

[20] Wilfley DE, Bishop ME, Wilson GT, Agras WS. Classification of eating disorders: Toward DSM-V. International Journal of Eating Disorders. 2007;40(S3):S123-9.

[21] Devlin MJ. Is there a place for obesity in DSM-V? Int J Eat Disord. 2007;40(S3):S83-8.

[22] Addinsoft SARL. Xlstat. Loading Data Analysis and Statistical Solution for Microsoft Excel. Addinsoft SRL, Paris, 2006.

[23] Walsh BT. DSM-V from the Perspective of the DSM-IV Experience. Int Eat Disord. 2007;40 Suppl:S3-7.

[24] Donini LM, Cuzzolaro M, Spera G, et al. Obesity and eating disorders. Indications for the different levels of care. An Italian expert consensus document. Eat Weight Disord. 2010;15(1-2 Suppl):1-31.

[25] Cuzzolaro M. Eating and weight disorders: Studies on anorexia, bulimia, and obesity turns 19. Eat Weight Disord. 2014;19(1):1-2.

[26] Rivista Italiana Nutrizione Parenterale ed Enterale. Linee guida SINPE per la Nutrizione Artificiale Ospedaliera. www.sinpe. org/documenti/Linee_guida_sinpe_na_ospedaliera.pdf. Accessed 2013, 2002.

[27] McDermott BM, Jaffa T. Eating disorders in children and adolescents: An update. Curr Opin Psychiatry. 2005;18(4):407-10.

[28] Isomaa AL, Isomaa R, Marttunen M, Kaltiala-Heino R. Obesity and eating disturbances are common in 15-year-old adolescents. A two-step interview study. Nordic journal of psychiatry. 2010;64(2):123-29.

[29] Isomaa R, Isomaa AL, Marttunen M, Kaltiala-Heino R, Björkqvist K. The prevalence, incidence and development of eating disorders in finnish adolescents—a two-step 3-year follow-up Study. European Eating Disorders Review. 2009;17(3):199-207.

[30] Shaikh MA, Kayani A. Detection of eating disorders in 16–20 year old female students-perspective from Islamabad, Pakistan. Journal of the Pakistan Medical Association. 2014;64(3):334-6.

[31] Faiburn CG, Harisson PJ. Eating Disorders. Lancet. 2003;361:407-16.

[32] Taylor CB, Bryson S, Luce KH, Cunning D, Doyle AC, Abascal LB, et al. Prevention of eating disorders in at-risk college-age women. Archives of General Psychiatry. 2006;63(8):881.

[33] Zerbe KJ. The body betrayed: Women, eating disorders, and treatment. Washington, DC: American Psychiatric Press, 1993.

[34] Telch CF, Stice E. Psychiatric comorbidity in women with binge eating disorder: Prevalence rates from a non-treatment-seeking sample. Journal of Consulting and Clinical Psychology. 1998;66(5):768.

[35] Greenberg ST, Schoen EG. Males and eating disorders: Genderbased therapy for eating disorder recovery. Prof Psychol Res Pract. 2008;39:464-71.

[36] O'Hara SK, Smith KC. Presentation of eating disorders in the news media: What are the implications for patient diagnosis and treatment? Patient Educ Couns. 2007;68:43-51.

[37] Räisänen U, Hunt K. The role of gendered constructions of eating disorders in delayed help-seeking in men: A qualitative interview study. BMI, 2014. Open. http://bmjopen.bmj.com/content/4/4/e004342.full.pdf+html

[38] An Italian Expert Consensus Document. Mappatura Nazionale dei Centri per Disturbi Alimentari. Progetto Ministeriale "Le Buone Pratiche di Cura nei Disturbi del Comportamento Alimentare" 2008. http://www.disturbialimentarionline.it/MappaDCA. Accessed 8 April 2013.