

SUBCLINICAL EATING DISORDERS AND THEIR COMORBIDITY WITH MOOD AND ANXIETY DISORDERS IN ADOLESCENT GIRLS IN SHARKIA GOVERNORATE

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ABSTRACT

Background: Eating disorders are complex psychiatric syndromes in which cognitive distortions related to food and body weight and disturbed eating patterns can lead to significant and potentially life threatening medical and nutrition complications.

Aim of the work: To evaluate the prevalence of subclinical form of eating disorders and the association between it and mood disorders (Major Depressive disorder, Dysthymia) and anxiety disorders in adolescent girls in Sharkia governorate

Subject and Methods: in this two-stage cross-sectional study, we screened 2000 secondary school-student girls using (EDT) ,and CSID-1(for eating disorders) .Those scoring more than 30in EDT, and +ve SCID-1 (N=471) and a control group randomly selected from those scoring lower than 30, and -ve SCID-1 for eating disorders (N=215). To differentiate types of eating disorders (anorexia nervosa, bulimia nervosa, and EDNOS (subclinical eating disorders). All subjects(+ve SCID-1) involved in stage 2 were examined for mood disorders (depression, dysthymia) by using beck scale for depression, SCIA-I scale for dysthymia, and anxiety disorders by using taylor scale.

Results: the prevalence of subclinical eating disorders were 25.5% (SAN 3.5%, SBN 3.0%, SWC 10.0% and SBED 9.0%), there were statistically significant differences in socio-demographic data between the SEDS groups (Subclinical anorexia nervosa is low significant in BMI than other groups), Prevalencedepressive disorder 10.8%, MDD in SEDS patients were 2.5%, dysthymic disorder 4.0 % and generalized anxiety disorder 5.4%.

Conclusion: Subclinical eating disorders are more frequent than typical eating disorders. Subclinical forms of eating disorders may represent a high risk group for developing serious eating disorders, identifying this group will give an opportunity of prevention. Mood disorders (MDD, dysthymia) and generalized anxiety disorder are more frequent in subclinical eating disorders.

Key words Eating disorders| Subclinical eating disorders| Eating disorder test| Mood disorders| MDD| Dysthymic disorder| Generalized anxiety disorder.

INTRODUCTION

Eating disorders which do not meet all of the diagnostic criteria for anorexia nervosa or bulimia nervosa (although still associated with potentially serious health and psychological risks) are classified as Subclinical eating disorders⁽¹⁾. Various community surveys suggest that approximately 0.5% of the adolescent population suffer from anorexia nervosa, 1% suffer from bulimia nervosa, and 3–5% suffer from subclinical syndromes at any one point in time⁽²⁾. In Europe, they are often termed "Atypical eating disorder" . The equivalent American term being (eating disorders not otherwise specified)⁽³⁾. Subclinical eating disorders are more frequent than the full syndromes, and there is a shift between diagnostic groupings (clinical end subclinical) over time⁽⁴⁾. We expect a relatively high prevalence of SED in adolescent girls because more than 50% of adult outpatients with an eating disorder not meet DSM criteria for either AN OR BN and given the eating disorder don't otherwise specified diagnosis (EDNOS)⁽⁵⁾. As subclinical forms may represent a "high risk group" for developing more serious eating disorders, identifying this group will give an opportunity of prevention.

Eating disorder symptoms were also associated with the presence of mood and anxiety

disorders, particularly dysthymia and MDD. These results are supported by previous research indicating that adolescents with abnormal eating attitudes and behaviors frequently report high levels of depression and anxiety⁽⁶⁾.

It has been proposed that depression and anxiety co-occur with ED due to neuroendocrinal disturbances induced by starvation⁽⁷⁾. In adolescence, ED are significantly more frequent among depressive or anxiety disorders than among those without depressive or anxiety disorders⁽⁸⁾. To our knowledge the understanding of mood and anxiety disorders among individuals suffering from SED is very scarce in adolescent population⁽⁹⁾. Assessing the presence of mood and\ or anxiety disorders among girls suffering from SED may inform on the severity of their psychological distress and could decrease the onset of eating disorder symptoms in early adulthood⁽¹⁰⁾. Finally, early detection of SED was associated with better clinical outcome⁽¹¹⁾. And decrease in risk of mortality⁽¹²⁾.

SUBJECTS AND METHODS

This is a cross- sectional study conducted during two academic years 2012/2014.including 2000 adolescent females from secondary schools in sharkia governorate. The identification of cases was performed in two stages. First stage, all

participants were asked to complete the demographic, the anthropometric measures to estimate the body mass index (BMI) and the EDT questionnaires administered in a single session during their class breaks. Second stage, all subjects (1850) were examined face to face by a psychiatrist with the eating disorders module of the Structured Clinical Interview for DSM-IV axis I Disorders (SCID-I). A control group was selected randomly from students who scored lower than 30 on the EDT (EDT-negatives) and SCID-I and paired with the patients group by age and educational standards, subjects with SCID-I +ve results for subclinical eating disorders, and control group were examined for mood disorders (depression, dysthymia) by using Beck scale for depression and SCIA-I scale for dysthymia, and anxiety disorders by using Taylor scale, most of the interviews were carried out within a week after the first stage to minimize changes in ED symptomatology. Before proceeding with the study, A written or oral consent was taken from students after discussing with them the aim of the study. Girls were informed that the questionnaire was not an 'examination', there is no right or wrong answer, they did not have to take part in it if they did not want to, and that they could withdraw from the survey at anytime, student consent, formal permission from each school and approval of Research Ethics Committee (at Faculty of Medicine, Zagazig University) were obtained.

Participants

A total of 2000 secondary school-student girls, in their first, second or third grade levels, were recruited from ten secondary schools. These included rural and urban schools in Sharkia governorate, Subjects are divided into 2 groups: patient group and control group, Patient group: This included: Study group (+ve EDT, +ve SCID-1) (471 females) from different secondary schools in Sharkia governorate. Control group (215 subjects) with no current or past eating disorders with matched age, sex and educational level.

Measures

Demographic characteristics questionnaire

A constructed questionnaire was used to derive information from self-reported data on age, education level, Birth order, residence, parental education, occupation as well as family ownership.

Eating Disorder Test (EDT)

It contains 40 questions with 6 graduated answers in Likert style. The score varies between 0-120. Ones who obtained 30 points or over were considered at high risk of having Eating Disorders. Higher scores from the items indicated that the severity of pathology get worse. EDT has been

validated and found to discriminate well between subjects with ED and normal ones⁽¹³⁾.

Anthropometry

Girls' heights and weights were measured following the questionnaire. Weight was taken to the nearest 0.1 kg and height was measured to the nearest 0.1 cm. The body mass index (BMI) was calculated by dividing the weight (kg) by the height (m) squared.

Eating disorders module of the Structured Clinical Interview for DSM-IV axis-I Disorders (SCID-I)⁽¹⁴⁾

In Egypt, SCID-I has been adapted and successfully used by psychiatric patients and non-patient community subjects^(15,16). The diagnosis of partial syndromes (EDNOS)^(17,18). Was applied to cases which met all the DSM-IV criteria for AN and/or BN with one exception.

Beck Depression Inventory (BDI-II-Arabic version):⁽¹⁹⁾

The Beck Depression Inventory Second Edition (BDI-II) was a 1996 revision of the BDI. It is a self-report rating scale translated to Arabic by Dr. Ghareeb Abd el Fatah measuring the emotional, cognitive and motivational symptoms of depression. It is a 21-item self-report instrument intended to assess the existence and severity of symptoms of depression as listed in the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV; 1994).

Application of SCAD-1 scale for dysthymia.⁽¹⁴⁾

In Egypt, SCID-I has been adapted and successfully used by psychiatric patients and non-patient community subjects. The scale consists of 14 items to assess the presence of depressive symptoms in the last two years.

Application of Taylor scale for anxiety disorders

The scale consists of 50 items each one has 2 answers (yes, no) Scale correction (<17 no anxiety, 17-25 mild anxiety, 26-36 moderate anxiety, 37-49 severe anxiety)

Statistical analyses

Descriptive statistics (frequencies, percentages, means, and SDs) were carried out using *t* test for continuous variables and χ^2 analyses (using Yates correction when indicated) for categorical variables. The association among variables was evaluated by correlation coefficients. Statistical analyses were carried out using the computer software package Statistical Package for Social Sciences (SPSS, Chicago II, USA) for Windows version 16.0. Probabilities below 0.05 were regarded as significant.⁽²⁰⁾

RESULTS

1-Sociodemographic data of the sample:

Of 2000 student girls who originally approached, 1850 (92.5%) they answered the questionnaires (Table-1) summarizes their sociodemographic data. Average age of students (16.3 ± 1.3) years. The differences between SED groups were not statistically significant, there was a statistical significance between SAN and other groups in BMI, (SAN) has low BMI than control groups and other SED subtypes. Tense relation between father and mother were statistically significance (SBN, SBED). SBED patients whose mothers don't work had statistically difference than control group.

2- EDT results:

Table (2) shows, Students who answered EDT (+ve) "who are susceptible for eating disorders in the 1st stage of study were (n=215) with 11.6%, Students who answered EDT (-ve) "who are not susceptible for eating disorders (n=1635) with 88.4%.

3- Interview results:

All subjects (1850) further assessed by the eating module of SCID-1(14). None of these students refused to be interviewed. Also, all randomly selected controls (215) EDT negatives participated, and -ve SCID-1 in the interview. Table (3) shows that (0.6%) of participants fulfilled the ED diagnostic criteria, (0% for AN, 0.6% for BN). The prevalence of subclinical eating disorder/EDNO was (25.5%), (SAN=3.5%, SBN=3.0%, SWC=10.0, SBED=9.0%). the Prevalence of mood disorders in SEDs, depressive disorder 10.8%, MDD 2.6%, and dysthymic disorder 4.0%), and generalized anxiety disorders 5.4%.

4- Comorbidity between SED and mood disorders(MDD, dysthymia), and generalized anxiety disorder:

Table (4) shows that there were significant differences between SEDs and control group regarding to psychiatric disorders (depression, dysthymia, and G. anxiety disorders). ($P < 0.001$).

Table (5) shows there was no significant differences between SAN and control group regarding (MDD, dysthymia, GAD).

Table (6) shows that subclinical bulimia nervosa were statistically differ from control group regarding (depression, dysthymia, G. anxiety disorders).

Table (7) shows that there was no statistical difference between subclinical weight concern and control group regarding (MDD, dysthymic disorder), but there was a statistical difference between SWC and control group regarding G. anxiety disorder.

Table (8) shows that there were statistical difference between subclinical binge eating disorder and control group regarding (MDD, dysthymic disorder, and G. anxiety disorder).

5-Correlation results:

Table (9) shows that there was a positive significant correlation between subclinical anorexia nervosa and generalized anxiety disorder and dysthymic disorder.

Table (10) shows that there was a positive significant correlation between subclinical bulimia nervosa and MDD and dysthymic disorder

Table (11) shows that there was a negative significant correlation between subclinical weight concern and dysthymic disorder.

Table (12) shows that there was positive significant correlation between subclinical binge eating disorder and (MDD).

Table (1): Sociodemographic data of the sample.

	control		SAN		SBN		SWC		SBED		F	P
Age (year)												
$\bar{X} \pm SD$	15.9±0.7		16.1±0.9		16±0.8		15.9±0.8		16.0±0.9		1.16	0.3
Range	15-18		15-18		15-18		15-18		15-18			
BMI												
$\bar{X} \pm SD$	22.2±3.4		16.7±1.1		23.6±3.4		22.1±5.0		21.3±4.9		28.1	0.001**
Range	16-30		15-20		19-40		15-30		15-40			
Residence	N	%	N	%	N	%	N	%	N	%		
Rural		45.6	30	46.2	26	47.3	72	38.9	67	40.4		
Urban	98	54.4	35	53.8	29	52.7	133	61.1	99	59.6	6.36	0.17
	117											
Education of father												
Illiterate	18	8.4	8	12.3	6	10.9	24	13.0	18	10.8		
Average	65	30.2	19	29.2	13	23.6	40	21.6	40	24.1	6.2	0.6
High	132	61.4	38	58.5	36	65.5	121	65.4	108	65.1		
Occupation of father												
Not working	7	.3	4	6.2	2	3.6	7	3.3	6	3.6	1.18	0.8
Working	208	96.7	61	93.8	53	96.4	208	96.7	160	96.4		
Education of mother												
Illiterate	19	8.8	6	9.2	8	14.5	19	8.8	18	10.8		
Average	103	47.9	25	38.5	24	43.6	103	47.9	73	44.0	5.4	0.7
High	93	43.3	34	52.3	23	41.8	93	43.3	75	45.2		
Occupation of mother												
Not working	113	52.6	52	80.0	32	58.2	118	63.8	116	69.9	22	0.001**
Working	102	47.4	13	20.0	23	41.8	67	36.2	50	30		
Birth order												
1 st – 3 rd	193	89.8	60	92.3	52	94.5	171	92.4	154	92.8	2.07	0.7
More	22	10.2	5	7.7	3	5.5	14	7.6	12	7.2		
Relation between father/mother												
Separated	13	6.0	0	0.0	2	3.6	3	1.6	1	0.6		
Tense	110	51.2	40	61.5	35	63.6	98	53.0	94	56.6	16.3	0.4*
Good	92	42.8	25	38.5	18	32.7	84	45.4	71	42.8		

Table (2): frequencies of eating disorders detected in the sample in stage 1:

	N= 1850	%
EDT(+ve)	215	11.6%
EDT(-ve)	1635	88.4%

Score of eating disorder test ≥ 30 .Score of eating disorder test < 30 .

Table (3): Distribution of eating disorders in stage 2(psychiatric interview).

Variable	ED subtypes	N	%
Clinical ED (0.6%)	AN	0	0.0
	BN	11	0.6
Subclinical ED (25.5%)	SAN	65	3.5
	SBN	55	3.0
	SWC	185	10.0
	SBED	166	9.0

AN (anorexia nervosa), BN (bulimia nervosa), SAN (subclinical anorexia nervosa), SBN (subclinical bulimia nervosa), SBED (subclinical binge eating disorder).

Table (4): Comparative study between subclinical eating disorders and control group regarding psychiatric disorders (depression, dysthymia and GAD)

Variables	Control(215)		Subclinical ED(471)		X ²	P
	N	%	N	%		
Depression	31	1.7	200	10.8	131.8	0.001**
Dysthymia	21	1.1	75	4.0	55.12	0.001**
G. Anxiety	19	1.03	99	5.4	38.6	0.001**

Table (5): Comparative study between subclinical anorexia nervosa and control group regarding to psychiatric disorders (depressive disorder, dysthymia, and generalized anxiety disorder)

Variables	control		Subclinical AN		X ²	P
	N	%	N	%		
MDD	2	0.9	2	3.1	0.46	0.49
Dysthymia	19	8.8	10	15.4	2.3	0.12
G. Anxiety	21	9.8	9	13.8	0.94	0.33

Table (6): Comparative study between subclinical bulimia nervosa and control group regarding (depression, dysthymia, G. anxiety disorders)

Variables	control		Subclinical BN		X ²	P
	N	%	N	%		
Depression	31	14.4	32	58.2	46.83	<0.001**
Dysthymia	19	8.8	13		9.18	<0.002*
G. Anxiety	21	9.8	15	27.3	11.6%	<0.001**

Table (7): Comparative study between subclinical weight concern and control group regarding (depression, dysthymia, G. anxiety disorders)

Variables	control		Subclinical WC		X ²	P
	N	%	N	%		
MDD	2	0.9	4	4.7	2.7	0.09
Dysthymia	19	8.8	25	13.5	2.22	0.13
G. Anxiety	21	9.8	34	23.2%	13.44	0.001**

Table (8): Comparative study between subclinical binge eating disorder and control group regarding (depression, dysthymia, G. anxiety disorders)

Variables	control		Subclinical BED		X ²	P
	N	%	N	%		
MDD	2	0.9	4	6.1	4.2	0.039*
Dysthymia	19	8.8	26	15.7	4.19	0.04*
G. Anxiety	21	9.8	32	13.9	6.56	0.01*

Table (9): Correlation between subclinical anorexia nervosa and psychiatric disorders (depression, dysthymia, and anxiety)

Variables	r	P
MDD	-0.06	>0.05
Dysthymia	0.34	0.05*
G. Anxiety	0.42	0.001**

Table (10): Correlation between subclinical bulimia nervosa and psychiatric disorders (depression, dysthymia, and anxiety)

Variables	r	P
MDD	0.65	0.001**
Dysthymia	0.43	0.01**
G. Anxiety	0.18	>0.05

Table (11): Correlation between subclinical weight concern and psychiatric disorders (depression, dysthymia, and anxiety)

Variables	r	p
MDD	0.11-	>0.05
Dysthymia	-0.21	0.001**
G. Anxiety	-0.01	>0.05

Table (12): Correlation between subclinical binge eating disorders and psychiatric disorders (depression, dysthymia, and anxiety)

Variables	r	p
MDD	0.11	0.01*
Dysthymia	0.04	>0.05
G. Anxiety	0.03	>0.05

DISCUSSION

Using (EDT) in the screening stage of this study we found that 11.6% of the sample of secondary school girls, from Sharkia governorate, had a score above the 30 (EDT +ve). Using a similar screening tool of the same cut-off point on a population of secondary school girls in Cairo, showed a very close finding 11.4% (Okasha A, Mahmoud S.2009) (21). The rate we obtained is also broadly concordant with the results of studies in other Arab countries (Eapen V, et al.,2006) (22), Thomas J, et al.,2010) (23) as well as in western societies (Sepulveda AR, et al.,2008)(24).

However, to overcome inherent problems of self-report inventories, many studies used a double-stage design with a diagnostic interview in

the second stage to provide a more precise measure of ED pathology (Peláez., et al.,2007) (25). Yet, it may be noted that such studies tended to interview all participants in the first phase. To detect prevalence of different types of eating disorders. (Isomaa ., et al.,2007)(26).

Second stage of the study, the prevalence of current ED. Meet all criteria DSMIV for eating disorders was (0% for anorexia nervosa and 0.6% for bulimia nervosa). This was in agreement with (Fawzi,et al.,2010) (27) by using the similar scale SCID1 structured interview the prevalence of full clinical AN was 0% on a population of secondary school girls in Sharkia governorate. Also our results were in agreement with (Fairburn., et

al.,1999) (28) that the prevalence of BN was 1% among young females.

But this is not agree with the results obtained by (Roberts, et al., 2007)(29) in their study, 13.8% of the college students rated eating disorders. Also our results not agree with (30) their studies showed that the prevalence of ED meeting all clinical criteria was 0.6% for AN, and 0% for BN. The different results declared in various research studies can be derived from different usage of different screening methods, different age of studying groups and difference in culture back ground.

The prevalence rates of subclinical disorders vary between studies, partly as a consequence of defining subclinical eating disorders in different ways. As expected, SED are more frequent than the full syndrome.

We found that the prevalence of SED was (25.5%) as (SAN 3.5%, SBN 3.0%, SWC 10.0%, and SBED 9.0%). Touchette, et al. (2010)(30) reported that the prevalence of SED was (31.1%) as (SAN 3.5%, SBN 3.8%, SWC 13%, and SBE was 10.8%). by using the same criteria for diagnoses subclinical eating disorders and the same scale SCID-1 and this was in agree with our results. (DiGioacchino DeBate R, et al., 2002)(31), their study reported that the prevalence of subclinical eating disorders was 28% for triathletic females the study concerned with females in the same age of our study. (Fairburn CG, Beglin SJ. 1990) (28),found that 4.5% women with EDNOS in a recent general practice-based study of 285 English women aged 16-35 years, (Kari .1994), reported that 7-9% of girls aged 12-19 years had symptoms of eating disorders \EDNOS. These results not in consistence with our results as they used different scale in the diagnosis of EDNOS. "Eating Disorder Examination Questionnaire "(EDE-Q).

We found that there was no statistical difference in age between control and SED subtypes, some previous studies had failed to find significant differences at specific ages, this is likely due to the reduced statistical power, with the smaller sample sizes present when examining individual age categories (Gardner RM, et al.,2000) ((32). Although our study was restricted to the age range of secondary school students, results were consistent with most research which recognized that disordered eating is most likely to occur during late adolescence and emerging adulthood (Fairburn CG, et al.,2003) (33).

Data we obtained regarding to prevalence of psychiatric disorders among subclinical eating disorders groups were depressive disorder (10.8%),

generalized anxiety disorder (5.4%) and dysthymic disorder (4.0 %).this findings are consistent with (Touchette, et al., 2010) (30) they found that the prevalence of depression among subclinical eating disorders were (10.2%), G. anxiety disorder (2.8%), and dysthymic disorder (5.8%).the slight difrence may be related to , their study concerned with age(6-12).

Similar to studies of adolescents meeting DSM criteria for ED, We found that adolescent girls suffering from SED had a high comorbidity with mood and anxiety disorders. We found that girls suffering from EDNOS bulimic type are at high risk of mood disorders. These results are in line with a small sample study showing that the highest depressive scores are found among adolescents suffering from SBN followed by those with SBED. Also in our study, the lowest depressive scores were reported among adolescents suffering from SAN (Eddy, K.T.,et al.,2008) (34). It could be explained by the fact that the adolescent girls suffering from current SAN in the present paper were younger, less undernourished, and with a higher general functioning.

Generalized anxiety disorder occurred significantly more in SBN, SWC and SBED compared to the comparison group. Two possible explanations for the above association are proposed: 1) Weight concerns could trigger anxiety symptoms, 2) Anxiety may lead to weight obsessions (Greeno and Wing, et al.,1994). (35).

In agreement with this result) (Touchette, et al., 2011) (30), (Ursula Pauli-Pott, et al.1998) (36), found that symptoms of generalized anxiety disorders occurred more with SBN, followed by SWC and SBED compared to the comparison group, in adolescent females. (Ursula Pauli-Pott, et al.1998)(36) in their study the prevalence of GAD of SBED was (11.9%), this is in agreement with our finding (19.3%), this may be explained by that the study concerned with child \ adolescence between (8-15 years), and the diagnoses was done according to DSM-IV criteria. Our results are also relevant to the conceptualization of the relationship between anxious and disordered eating symptoms. Past researchers have shown anxiety disorders and subclinical eating disorders to exist comorbidly among adolescent girls (mean age=16; e.g., Touchette et al., 2011; Zaidler, Johnson, & Cockell, 2000)(30)

The prevalence of dythymic disorder in SED sample was (4.0%) In consistent with these results (Touchette, et al.,2010)(30) found that the prevalence of dythymic disorder was (5.8%) in SEDS. As the study concerned with adolescent female, and they use the same scale SCID-1.

The correlation between depressive and eating symptoms increased among adolescent girls (Santos, Richards, & Bleckley, 2007)(38).

There are significant associations between depressive disorder, dysthymic disorder and generalized anxiety disorder and subclinical bulimia nervosa. Touchette, et al., (2011)(30) found that there is significant association between depressive disorder, dysthymic disorder and generalized anxiety disorder and subclinical bulimia nervosa than the control group. This is agreed with our results.

Major depressive disorder (MDD) and dysthymia have significant correlated with subclinical bulimia in adolescent girls.(Lewinsohn et al. 2000)(39) focused on major depressive disorder (MDD) or dysthymia was more strongly correlated with bulimic symptoms in an adolescent and young adult sample this is in agreement with our results. (The study concerned with the same age group).

Our results show that adolescent girls, who report some type of eating disorder, show the dysthymic syndrome, when compared to the comparative group. Likewise, according to what was expected, we found higher frequencies among adolescents with bulimic behaviour (sBN) compared to those who present restrictive behaviour (sANr), Nevertheless, these data would be in line with the approach carried out by O'Kearney et al. (1998)(40) as there is higher probability that bulimic variant patients also suffer from dysthymia, due to the fact that these patients show greater anxiety caused by the lack of control over their diet and the secondary effects produced by the eating disorder.

From our results G anxiety disorder, MDD, and dysthymia have negative correlation with subclinical weight concern. (Laina Y. Bay-Cheng, et al., 2002)(41) Their study concerned with linking weight concern and mental health among Latin ,black and white women found that. In black respondents, weight concern and chronic depressive symptomatology were not significantly correlated and this is agreed with our results. But in latine females weight concern and chronic depressive symptoms were significantly inter-correlated. Also in white females weight concern and chronic depressive symptoms were positively correlated, these are in consistent to our findings. The different results can be explained by sociocultural contexts of different groups influence how weight concern and chronic depressive symptoms are handled and lead in different directions.

CONCLUSIONS

By the end of our study, we came up with the following conclusions:

- 1- Subclinical eating disorders are more frequent than typical eating disorders.
- 2- Subclinical forms of eating disorders may represent a high risk group for developing serious eating disorders, identifying this group will give an opportunity of prevention.
- 3- Mood disorders (MDD, dysthymia) and generalized anxiety disorder are more frequent in subclinical eating disorders.

RECOMMENDATIONS

1. It is important to put a strict definition for subclinical eating disorders.
2. The need to study the risk factors of subclinical eating disorders for early detection and better prognoses.
3. The need to study the comorbidity of other psychiatric disorders (anther types of anxiety disorders as OCD), substance abuse and personality disorders with subclinical eating disorders.
4. Comparative studies should be conducted on males to know the size of problem among them

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