



## A Study on the Prevalence of Depression and Eating Disorder among Females of Fertile age group in Chennai.

### KEYWORDS

Eating disorders, KADS scaling, fertile female population.

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**ABSTRACT** Aim: Eating disorders (ED) are among the most common psychiatric problems seen in females of reproductive age group. It has got a persistent impact, comorbid psychopathology, medical complications, and elevated mortality. This article is mainly focussed to explore the impact of depression among the adolescent young females and the women of reproductive age group.

**Materials and Methods:** It is a questionnaire based study, where 70 females (age: 13-45 years) were selected. They were asked to fill out questionnaires on eating attitudes and behaviours with the help of 26-item Eating Attitudes Test (EAT). The depression scoring was done with the help of 6-ITEM Kutcher Adolescent Depression Scale(KADS6). Participants who scored  $\geq 20$  on the EAT were considered to have abnormal eating pattern and effect of psychological, behavioural, and socio-environmental variables in individuals with and without eating disorders, were assessed. The KADS score  $\geq 6$  is considered to have possible sign of depression among the study population.

**Results:** Depression seen among eating disordered females was observed with the odds ratio of 1.63(0.49-5.38). The females with BMI less than 23 had more depression and eating disorder scoring than the females with BMI  $\geq 23$  as their odds ratio were 1.16(0.42-3.23) respectively. The prevalence of eating disorder and depression with 95% confidence interval was  $\pm 19.7\%$  and  $33.8\%$  among the study population. Statistical significance was not significant as the sample size was inadequate. But there is a strong correlation between BMI and depression with  $X^2$ (chi square test) of 0.0001..

**Conclusion:** Depression is prevalent among fertile female age group with significant eating disorder pattern and it is strongly associated with various psychological, behavioral, and socio-environmental domains. Future prospective and experimental studies are needed to expand our understanding of the risk factors and the morbidity to enable better preventive programme planning.

### INTRODUCTION

Chronic illnesses are increasing and constitute a major public health problem (1). Chronic health conditions are defined as having a biological, psychological, or cognitive basis, as lasting or are expected to last for at least 1 y, producing signs and symptoms that may limit function and activities, and requiring medical care or related services (2). Currently, 1 of 10 inschool adolescents have a chronic illness or disability that limits their ability to perform daily functions (3-5). Elevated body dissatisfaction, dietary restraint, and bulimic symptoms at study entry predicted onset of subsequent depression among initially nondepressed youth in bivariate analyses controlling for initial depressive symptoms(6). It is proposed that a cultural ideal of thinness for women causes depression at a higher rate in women than among men. This model accounts for five currently unintegrated trends in the epidemiology of depression. It explains why twice as many women as men are likely to be depressed; this sex difference emerges at puberty; this sex difference is only found in western countries; there is more depression today; the average age of onset for depression is younger now than in the past. Four parallel trends in eating disorders can also be accounted for by the same factor.(7) Thus, we aimed to identify prevalence of depression and eating disorder pattern in reproductive age group females correlated with their BMIs that could serve as targets for integrated preventive strategies.

### MATERIALS AND METHODS

This is a cross sectional observational study. The study was described in detail to the participants and the parents of adolescent females and the consent for their participation

obtained. The study population included were 70 from an urban population. This included 20 teenage girls(13 to 19), 28 in the age group of 20 to 30 and 22 were in the age group of 31 to 45. The sample size excluded females who did not attain menarchy and those who attained menopause. Among 150 females recruited, 80 were excluded for other psychiatric illness, other pharmacological intervention, cognition impairment and co existing morbidity.

A self report questionnaire was given to the enrolled females. The questionnaire includes three portions: 1. their BMI, socio economic status, marital status; 2. 6 item Kutcher Adolescent depression scale:KADS-6;and 3.Eating Attitude Test(EAT) to assess the correlation among various fact

#### 6-ITEM Kutcher Adolescent Depression Scale: KADS-6 This includes 6 items.

OVER THE LAST WEEK, HOW HAVE YOU BEEN "ON AVERAGE" OR "USUALLY" REGARDING THE FOLLOWING

#### ITEMS:

1. Low mood, sadness, feeling blah or down, depressed, just can't be bothered.

... ..

0 - Hardly Ever 1 - Much of The Time 2 - Most of The Time 3 - All of The Time

2. Feelings of worthlessness, hopelessness, letting people down, not being a good person.

... ..

0 - Hardly Ever 1 - Much of The Time 2 - Most of The Time 3 - All of The Time

3. Feeling tired, feeling fatigued, low in energy, hard to get motivated, have to push to get things done,

want to rest or lie down a lot.

... ..

0 - Hardly Ever 1 - Much of The Time 2 - Most of The Time 3 - All of The Time

4. Feeling that life is not very much fun, not feeling good when usually (before getting sick) would feel

good, not getting as much pleasure from fun things as usual (before getting sick).

... ..

0 - Hardly Ever 1 - Much of The Time 2 - Most of The Time 3 - All of The Time

5. Feeling worried, nervous, panicky, tense, keyed up, anxious.

... ..

0 - Hardly Ever 1 - Much of The Time 2 - Most of The Time 3 - All of The Time

6. Thoughts, plans or actions about suicide or self-harm.

... ..

0 - Hardly Ever 1 - Much of The Time 2 - Most of The Time 3 - All of The Time.

**OVERVIEW**

The Kutcher Adolescent Depression Scale (KADS) is a self-report scale specifically designed to diagnosis and assess the severity of adolescent depression, and versions include a 16-item, an 11 item and an abbreviated 6-item scale.

**SCORING INSTRUCTIONS**

**TOTAL SCORE SCORE INTERPRETATION**

0 – 5 Probably not depressed

6 and ABOVE Possible depression; more thorough assessment needed(8)

Self-report instruments commonly used to assess depression in adolescents have limited or unknown reliability and validity in this age group. We describe a new self-report scale, the Kutcher Adolescent Depression Scale (KADS), designed specifically to diagnose and assess the severity of adolescent depression. Used with a cutoff score of 6, the six-item KADS achieved sensitivity and specificity rates of 92% and 71%, respectively—a combination not achieved by other self-report instruments. The six-item KADS may prove to be an efficient and effective means of ruling out MDE in adolescents.

**Eating Attitude Test (EAT)**

The EAT developed by Garner et al(9) was employed in

this study for the assessment of attitudinal and behavioral dimensions relevant to eating disorders i.e. to distinguish patients with eating disorders from weight-preoccupied, but otherwise healthy, female adolescents. It identifies the presence of symptoms that are consistent with either a possible eating disorder or disordered eating and warrant a complete evaluation. EAT consists of 26 items rated on a six point scale, with a score of 3 assigned to the responses farthest in the "symptomatic" direction, a score of 2 for the immediately adjacent response, a score of 1 for the next adjacent response and a 0 score assigned to the three responses farthest in the "asymptomatic" direction. (10) Higher scores indicate higher disordered eating attitudes and behaviors.

**STATISTICAL ANALYSIS**

The data was tabulated and analysed statistically. They were expressed as continuous and categorical variables ie. Mean ±SD and percentages respectively.the datas were logarithmically transformed before analysis. Statistical significance were analysed using chi square test, odds ratio correlation p value and 95% confidence limits.

**RESULTS**

Based on KADS 6 item scoring and EAT scoring, 6 individuals were said to have depression and eating disorder and 18 had no significant depression but with eating disorder.39 individuals did not have both depression and eating disorder pattern at all.8 females reported with depression without any eating disorder problem. The results are tabulated below(table 1)

**Table:1**

EATING DISORDER	YES	NO	
DEPRESSION			
YES	6	8	14
NO	18	39	57
	24	47	

Odds ratio = 1.63(0.49 – 5.38) x<sup>2</sup> = 0.23 p value = 0.63

Further analysis were done based on their BMI. Eating disorder pattern and BMI above and below 23 were correlated as follows in table 2:

**Table:2**

	EATING yes	DISOREDER no	
BMI ≤23	8	17	25
BMI >23	6	40	46
	14	57	

Odds ratio : 3.14(0.94-10.43), x<sup>2</sup>=2.58 p value = 0.11

Table 2 shows that there is more number of cases with eating disorders seen with lean individuals ie BMI less than 23 than the overweight females.

Similarly odds ratio and chi square test(x<sup>2</sup>) were done between BMI and depression. There is a strong correlation between these two parameters as shown in table 3

Table:3

	DEPRESSION SCORING		
	yes	no	
BMI ≤23	9	16	25
BMI >23	15	31	46
	24	47	

Odds ratio : 1.16(0.42-3.23) ,  $\chi^2 = 0.0001$  p value = 0.98

## DISCUSSION

The major finding in this study is the prevalence of eating disorder ie the range for true population proportion about  $\pm 9.32$  based on 95% confidence limit calculation. And the prevalence of depression was found to be 33.8% with or without eating disorder. Finally the prevalence of overweight was 64%. The reason for overweight is that the study population included were under urban population with high socio economic status. Age-adjusted prevalence of overweight was 17.8% for boys and 15.8% for girls. But this study shows that it increased with age and was higher in lower tertiles of physical activity and in higher socio-economic group. Birth weight and current BMI were positively associated. The study highlighted the high prevalence of overweight in adolescent children in urban India. Life style factors influenced BMI in adolescent age(11).

There was a strong correlation between depression and eating disorder pattern with odds ratio of 1.63 which is slightly higher than the normal. The p value was not statistically significant as the sample size was not adequate. The eating disorder pattern and depression were common among lean individuals with BMI less than 23 when compared to over weight individuals. This was strongly associated with the adolescent age group than the other fertile females. One such article shows that, lifetime prevalence rates for depression and probable binge eating disorder were high. Weight self-efficacy was inversely related to weight in both men and women. For women, depression was associated with lower weight self-efficacy and higher body weight. Women reporting depression or lower weight self-efficacy at baseline had less weight loss success at 6 and 12 months. Depression, binge eating disorder, and weight self-efficacy were not significantly associated with weight loss success in men(12).

The p values are not significant just because the sample size is small and not adequate, but otherwise the study shows fair correlation between depression and eating disorder pattern. They also show considerable effect of raised

BMI with depression and eating disorder.

## CONCLUSION

Eating disorders and depressive conditions are prevalent in a sample of fertile female population . Depression and eating disorder pattern are fairly associated with BMI. Future prospectives are needed to advance our understanding of the risk factors associated to help us give better prevention.

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