

A Study of Association of Psychological Disorders with Demographic and Personal Characteristics in Adolescent Girls

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ABSTRACT

Background: Adolescence is the period between childhood and adulthood. Biologically it is the time of sexual maturation and completion of growth. WHO defines adolescence as the second decade of life from 10 – 20 years.^[1] Psychological dysfunction is now the leading cause of disability in adolescence.^[2,3] The prevalence of psychopathology in adolescence in the general population is 16-20%.^[4] The objective of the study is to study the type of psychological disorders in school going adolescent girls aged 12-14 years and their association with demographic and personal characteristics. **Methods:** This is a cross sectional study in adolescent girls in the age group of 12-14 years studying in 8th and 9th standard in selected schools in Calicut district, April to May 2006. Sample size of the study is 620 adolescent girls. Tools used for the study are Childhood Psychopathologic Measurement Schedule (CPMS) and Beck Depression Inventory (BDI). Data was tabulated and chi square test was applied. **Results:** There is a high prevalence of psychological disorders in school going adolescent girls. 47% of adolescent girls have psychological disorders as per initial screening which was found to be significant above 13 years. Chronic physical illness, age of attainment of menarche, and menstrual problems had significant statistical association with psychological problems. **Conclusion:** From the study, the association between demographic and personal characteristics with psychological problems in adolescent girls is found to be significant. As a recommendation, we propose that psychological evaluation and counselling of adolescent girls is to be made part of school health programmes.

Keywords: Adolescent Girls, Demographic Characteristics, Personal Characteristics, Psychological Disorders.

INTRODUCTION

Adolescence is the period between childhood and adulthood. Biologically it is the time of sexual maturation and completion of growth. Psychosocially it is the period between childhood dependency and being a functionally independent adult. The term adolescence is derived from the Latin word 'adolescere' which means to grow to maturity. WHO defines adolescence as the second decade of life from 10 – 20 years.^[1] The period of adolescence can be divided into early (10- 13 years), mid (14-16 years) and late (17-20 years) Hormonal changes during adolescence lead to heightened emotions. The profound psychological and physical changes also disturb the adolescent emotionally. The adolescent adjustment to the changes is determined by her previous childhood experiences, schooling, peer group and chronic physical illness. Psychological dysfunction is now the leading cause of disability in adolescence.^[2,3] The prevalence of psychopathology in adolescence in the general population is 16-20%.^[4]

In India psychiatric disorders are very common in childhood and adolescence. In Indian studies the reported rate of psychopathology in children is 2.6 – 35.6%.^[5-8] In the preadolescent age group, psychiatric disorders are more common in boys than girls but adolescent girls have a higher rate of disturbance than boys primarily because of the higher rate of internalising disorders especially depression.^[9]

Aim of the Study

To study the type of psychological disorders in school going adolescent girls aged 12-14 years and their association with demographic and personal characteristics.

MATERIALS AND METHODS

Study Design: Cross sectional study.

Subjects: Adolescent girls in the age group of 12-14 years studying in 8th and 9th standard.

Place of study: Selected schools in Calicut district, April to May 2006.

Sample size: 642 adolescent girls. It was estimated based on the prevalence rate of 13.4% observed by an ICMR study conducted in the past with an allowable error of 20%.

Prior consent was obtained from school authorities. The following tools were used for the study.

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• **Semi structured proforma**
The semi-structured proformas contained items regarding demographic data, personal history data and academic history data.

• **Childhood psychopathology measurement schedule.^[10]**

CPMS is a parent reported schedule designed by Malhotra. S in 1988. It consists of 74 problem items on which parents rate the child's emotional and behavioural functioning at home. Each item is rated as YES (score 1) and NO (score 0). The cut off score was taken as 10 and children scoring 10 and above were considered positive for psychopathological cause. The usefulness of the scale as a screening instrument was proved in several Indian studies.^[11-14]

• **Beck depression inventory.^[15]**
It is a self-rating scale. It consists of 21 statements with the score for each statement ranging from 0-3, depending on the severity of the symptom. Total score is 63. A score of 0-16 is normal, 17-20 is borderline clinical depression, 21-30 moderate depression and over 40 is extreme depression.

Statistical Analysis:

Data was tabulated and chi square test was applied to find the association of psychological disorders with demographic and personal characteristics. P value <0.05 was considered significant.

RESULTS

There was a high prevalence of psychological disorders in school going adolescent girls. There was a total of 642 girls in the age group of 12-14 years who participated in the study.

Table 1: Age Group and CPMS

Age Group	Number	CPMS		F	P Value
		≥10	<10		
≤13 Years	325	132	193	11.061	0.0009
>13 Years	317	170	147		

Table 2: Menarche and CMPS

Menarche	Number	CPMS		Chi square	P Value
		≥10	<10		
Attained	400	204	196	5.665	0.017
Not Attained	242	100	142		

Table 3: Menarche and BDI

Menarche	Number	BDI		Chi Square	P Value
		≥17	<17		
Attained	399	51	348	10.307	0.001
Not Attained	241	12	229		

400 girls (62%) had attained menarche. While 204 (51%) girls who had attained menarche scored positive for psychological problems by CPMS score, only 100 girls (41%) who had not attained menarche scored positive. Out of 400 girls who had attained

There was significant difference in the age of children who scored 10 and above and those scored below 10 in the CPMS scale, this indicates psychological problems increase with age of the children.

Physical illness

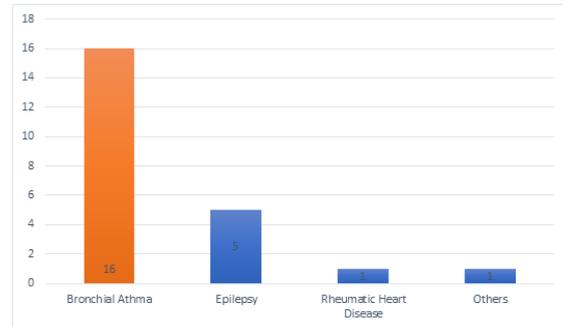


Figure 1:

History of bronchial asthma was present in 16 (2.5%) girls, 5 (0.7%) girls had epilepsy, 1 had Rheumatic heart disease and 1 was physically handicapped. More psychological problems were encountered in those with physical illness. The difference was statistically different.

Menarche

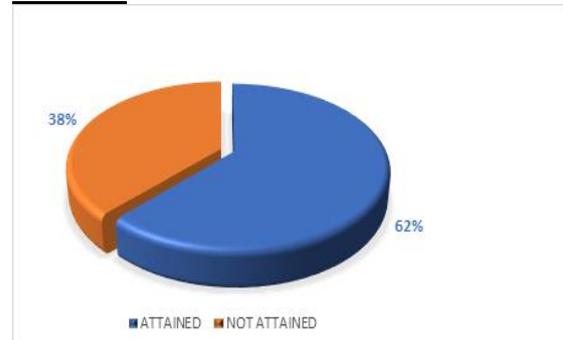


Figure 2:

menarche, 51 girls (12.78%) scored ≥ 17 by BDI score, while out of 242 girls who had not attained menarche only 12 girls (4.9%) scored ≥ 17. So, there was a significant association between menarche and psychological problems.

Menstrual Problems

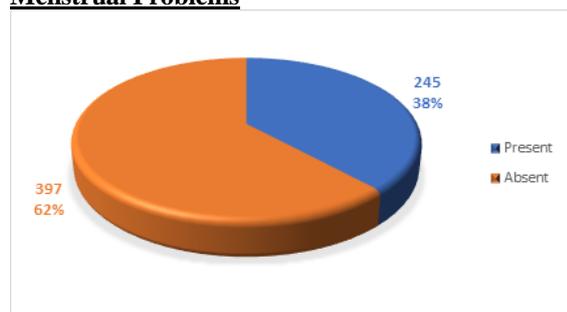


Figure 3:

Of the 400 girls who had attained menarche 245(61%) had some menstrual problems like dysmenorrhea, irregular bleeding or excessive bleeding. CPMS score ≥ 10 was found in 57.14% of the girls with menstrual problems, but only in 41.3% of the girls without menstrual problems. BDI score ≥ 17 was found in 15.16% of the girls with menstrual problems, but only in 6.5% of the girls without menstrual problems. Hence significant association was observed between menstrual problems and psychological disorders.

Table 4: Menstrual Problems and BDI

Menstrual Problem	Number	CPMS		Chi Square	P Value
		≥ 10	< 10		
Present	245	140	105	15.235	0.000
Absent	397	164	233		

Table 5: Menstrual Problems and BDI

Menstrual Problem	Number	BDI		Chi Square	P Value
		≥ 17	< 17		
Present	244	37	207	12.577	0.000
Absent	396	26	370		

DISCUSSION

There is wide variation in the prevalence of psychological disorders among adolescents reported in different studies from India in the past, the prevalence rate reported varies from as low as 2.6% to as high as 35.6%.^[5-8]

Reasons for this wide variation include differences in the diagnostic criteria, instruments used and in the population study. There are studies which report comparable prevalence of psychological disorders and also studies which report lesser prevalence.^[1,2, 9,11,16,17]

A study by ICMR 11 (2001) showed the prevalence to be 13.4% in the age group of 0-16 years. Bird et al 16 from Puerto Rico reported a prevalence rate of 49.5% among children in the 4-15-year age group. In our study, the prevalence rate was found to be 47%.

In the above mentioned studies, subjects were in the age group of 0-16 years. In our study, we have taken the subjects as adolescent girls in the age group 12-14 years.

There was significant association between chronic physical illnesses in the child (like bronchial asthma and epilepsy) and psychological disorders. This is in correlation with many previous studies. Kashani et al,^[18] Bussing R et al,^[39] and Malhi P et al,^[12] reported a high prevalence of behavioural problems in asthmatic children. Several studies have reported high prevalence of psychological problems in children with epilepsy.^[13,20,21]

In our study, 73.9% of adolescent girls with physical illness had CPMS score ≥ 10 , while only 46.3% of adolescent girls without any physical illness had CPMS score ≥ 10 . It is suggested that all children with chronic physical diseases should be evaluated

for psychological and emotional disorders as a part of their management.

According to G.C. Patton et al,^[22] menarche marks a transition in the risk of depression and anxiety in girls. This is not only because of the hormonal changes, but also because of the increased perception of negative body image. In our study, 400 (62%) girls had attained menarche, of which 204 (51 %) had psychological problems with CPMS score ≥ 10 and also 51 (12.75 %) girls had depression with BDI score ≥ 17 .

Our finding that girls who attained menarche have more psychological problems is comparable to the results of other studies in the past.^[24-26]

The finding that girls with menstrual problems have significantly more psychological problems also emphasizes the influence of hormones. Menstrual problems like menorrhagia and dysmenorrhoea may be due to hormonal imbalances or may be part of sexual development. It is well documented that both real and imaginary or assumed physical problems are associated with increased psychological problems in adolescents.^[27]

In our study, of the 400 girls that attained menarche, 245 (61%) had some menstrual problems. Of those 245, 140 (57.1%) had a CPMS score ≥ 10 and 37 (15.1%) had a BDI score ≥ 17 .

CONCLUSION

There is a high prevalence of psychological disorders in school going adolescent girls. 47% adolescent girls have psychological disorders, as per the initial screening using CPMS. These girls need to be evaluated in detail using standard diagnostic criteria.

Prevalence of depression among adolescent girls was 9%, with 3.7% of girls having borderline depression and 4.5% of girls having moderate depression. Rates of severe and extreme forms of depression in adolescent girls were 1.1% and 0.3% respectively. Increasing age and chronic physical illnesses are significant risk factors for psychological disorders in adolescent girls. Psychological disorders including depression are more in girls who have attained menarche and in those with menstrual problems. Psychological evaluation and counselling of adolescent girls should be made part of school health programmes. Services of adolescent counsellors should be provided in schools. Parents and teachers, both, should be given adequate training in child and adolescent psychology.

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