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## Psychosocial Problems of Preadolescent Girls with Early onset of Puberty

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### Abstract

Although puberty is a natural event, early puberty poses a risk for number of psychosocial problems. Among preadolescent girls, early puberty is associated with increased risk of depression, anxiety, eating disorders, low self-esteem, sexual victimization, behavioural problems and substance abuse. This study was conducted to identify psychosocial problems among preadolescent girls with early onset of puberty by using an explorative descriptive design. Purposive sampling technique was used to select 100 preadolescent girls between 10-12 years and attained menarche, from 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> standards of 4 private schools in Kottayam District of Kerala. Majority of the (69%) preadolescent girls were residing in rural area and 53% had their first menstruation between the ages of 11-12 years. The mean score of the psychosocial problem was 118.73/280±26.7. Maximum score was found to be in the area of eating disorders (6.52/12±2.05) followed by anxiety (34.09/68 ±8.72). The lowest score was found in the area of sexual abuse (3.5/12±1.32). There was an association between substance abuse with age, anxiety and eating disorders with religion, depression and education of mother at 0.05 level of significance.

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Menarche,  
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### Introduction

Adolescence is a critical period in the life span of an individual during which pubertal development and sexual maturation take place. In girls puberty normally begins with breast development and ends with menarche or first period. The onset of puberty is a significant milestone for young girls which delineate transition from childhood to womanhood.

The most striking event in the whole process of female puberty is considered as the onset of menstruation.

The timing of onset of puberty seems to be decreasing all over the world. In Europe the average onset of puberty in girls was 12.5 in 1980 and it had fallen to 10.5 years by 2010 (Jones, 2013).

A study conducted across Indian states found a long-term decreasing trend of about 0.21 years in menarcheal age between the oldest and the youngest cohorts. Over the past four decades the mean menarcheal age varied from 16.50 years to 12.43 years across various subgroups of Indian women (Pathak *et al.*, 2014). A survey conducted in Maharashtra among 742 urban girls between 9 and 16

years found mean menarcheal age of 12.62±1.05 years (Dambhare *et al.*, 2012).

Early physical development is considered as one of the risk factor for variety of physical and psychological problems in girls. The underlying reasons for the elevated risk of psychopathology in early-maturing girls are unclear. One possibility is that the increased pubertal hormones may be responsible for creating the distress (Steingraber, 2007).

Rapid changes in body size and shape from preadolescence to adolescence brought about by early menarche can generate anxiety among young girls. For most young people, puberty is the enemy of self-esteem. Early maturing girls are more likely to have body dissatisfaction and poor self-esteem during adolescence and to engage in excessive dieting and disordered eating. The physical appearance becomes more important for the girls in their social acceptance. Poor body image seems to persist among early maturing girls even after same age peers achieved puberty. The stressors of early puberty and associated adolescence changes may be overwhelming for the young girl. As a result, early puberty has a negative impact on the psychosocial health of the young girls (Fraser, 2017). Early physical maturation contributes a high prevalence of worry, depression and low self esteem (Oldehinkel *et al.*, 2011).

Earlier pubertal onset has been associated with increased anxiety, depression, substance abuse, eating disorders, body dissatisfaction, delinquency, risky sexual behavior, abortion and poor academic achievements compared with on-time or later maturation. In addition to these, psychosomatic symptoms including abdominal pain, sleep disturbances, headache, breathlessness, tremors, and heart palpitations are seen more among early matured adolescence to than with their counter peers (Mendle *et al.*, 2007).

Early pubertal maturation contributes to emotional outburst and conduct problems. The reason for this deviant behavior may be although there is physical maturity; the psychological development may often be lagging behind (Pilli *et al.*, 2008).

The relationship between pubertal status and symptoms of depression, stress, anxiety, stress perception and self-esteem was evaluated among 971 girls of 8 to 16 years old based on Tanner staging. ANOVA was used to compare the mean psychological symptoms scores with the girls' pubertal development. The mean age of the

sample was 12.5±2.4 years. The results showed symptoms of severe depression (3%), severe anxiety (2.1%) while 20% subjects perceived severe stress. The symptoms were highest in girls at Tanner stage V ( $p < 0.001$ ) whereas the self-esteem decreased as the Tanner stage increased ( $p < 0.001$ ) (Huerta *et al.*, (2002).

A study was conducted among 7488 adolescents from 16 to 20 years old using self-administered questionnaire. Data from participants reporting early or late timing of puberty were compared with those reporting average timing of maturation. Early maturing girls reported a higher rate of dissatisfaction with body image (OR=1.32) and functional symptoms (OR=1.52) and reported engaging in sexual activity more often (OR=1.93) (Michaud *et al.*, 2006).

Adolescent-girl health determines the health of future generation. They are not only the health of future citizens but also the future mothers of the nation. Current age of physical maturation has declined but psychosocial maturity may now lag behind the physical development. Puberty begins prior to the usual onset of adolescence can put a girl at serious disadvantage. It is necessary that health care providers must deal with the current trends and effects of early onset of puberty on health of early maturing girls as it may affect the future progress of the society.

## **Objectives**

To identify psychosocial problems among preadolescent girls with early onset of puberty.

## **Materials and Methods**

A quantitative approach and explorative descriptive design was used. From preadolescent population, girls between 10-12 years who attained menarche were identified by a preliminary survey. Using a purposive sampling, 100 subjects studying in 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> standards of 4 private schools from Kottayam District of Kerala were included in the study. Using an investigator prepared, validated and reliability (0.96) tested questionnaire with 4 point rating scale was used for data collection. The tool had 12 items on demographic profile, 70 items on psychosocial problems in 8 areas namely anxiety, depression, behaviour problem, eating disorders, substance abuse, sexual abuse and self-esteem. Each item was rated against 4 options; never', 'sometimes' and 'often' and 'always' assigning a score of 1 to 4 respectively. The score ranged from 70 to 280.

Ethical clearance from institutional ethical committee and formal permission from Head of the schools were obtained. Written consent from parents and written assent from preadolescent girls' were obtained before the data collection. The purpose and the procedures of the study were explained and confidentiality of the data was assured. Data was collected through self-administered questionnaire technique.

**Results and Discussion**

**Psychosocial problems of preadolescent girls with early puberty**

The psychosocial problems were assessed in seven areas and the total scores gained by summing up all the individual areas are the psychosocial problems score of the preadolescent girls with early puberty. The mean score of the psychosocial problem was 118.73/280±26.7. Out of 100 preadolescent girls majority of the subjects (64%) were well adjusted, 33% had mild and only 3% had moderate psychosocial problems (Figure1).

Maximum score was in the area of eating disorders (6.52/12±2.05) followed by anxiety (34.09/68±8.72) and depression (22.41/48 ±6.62). Minimum score was found in the area of sexual abuse (3.5/12±1.32) (table1) (Figure2).

Chi-square values were calculated to find out the association between baseline variable and psychosocial problem score of the preadolescent girls with early

puberty. The data shows that the chi-square values computed between substance abuse and age, religion with anxiety and eating disorders, education of mother and depression were significant at 0.05 level (table2).

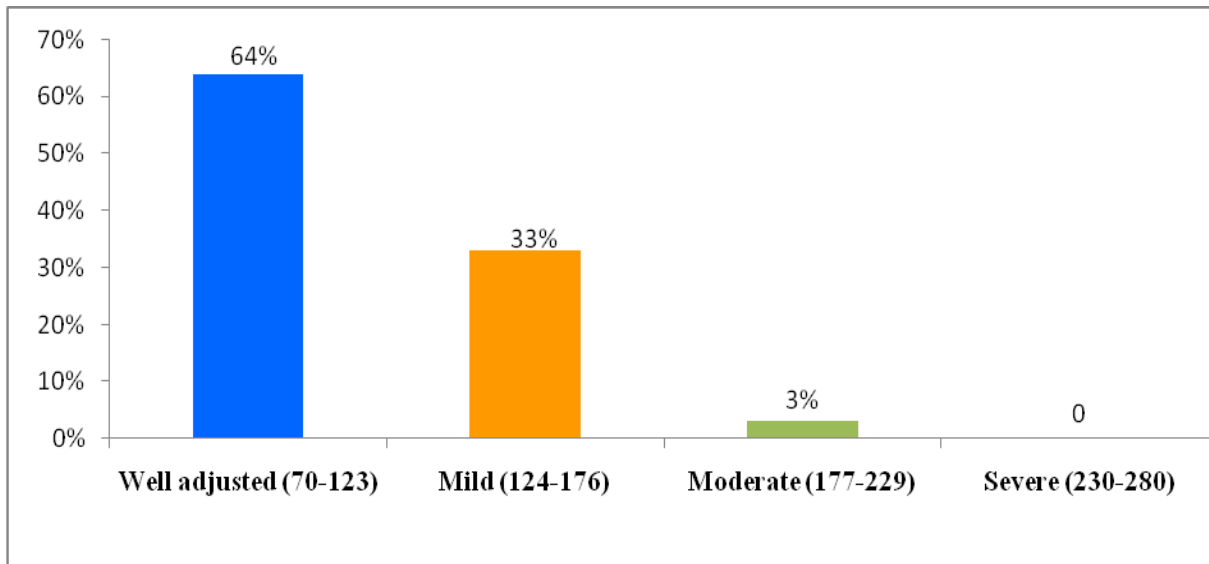
**Baseline characteristics of preadolescent girls with early puberty**

Most of the subjects (53%) were in the age group of 12 years and 64% were Christians. Majority of the preadolescent girls (82%) were staying with their father and mother. Most of the subjects' mothers (40%) were graduates and among them 61% were unemployed. Majority of the preadolescent girls (69%) were residing in rural area and 53% them had their first menstruation between the ages of 11-12 years (table3).

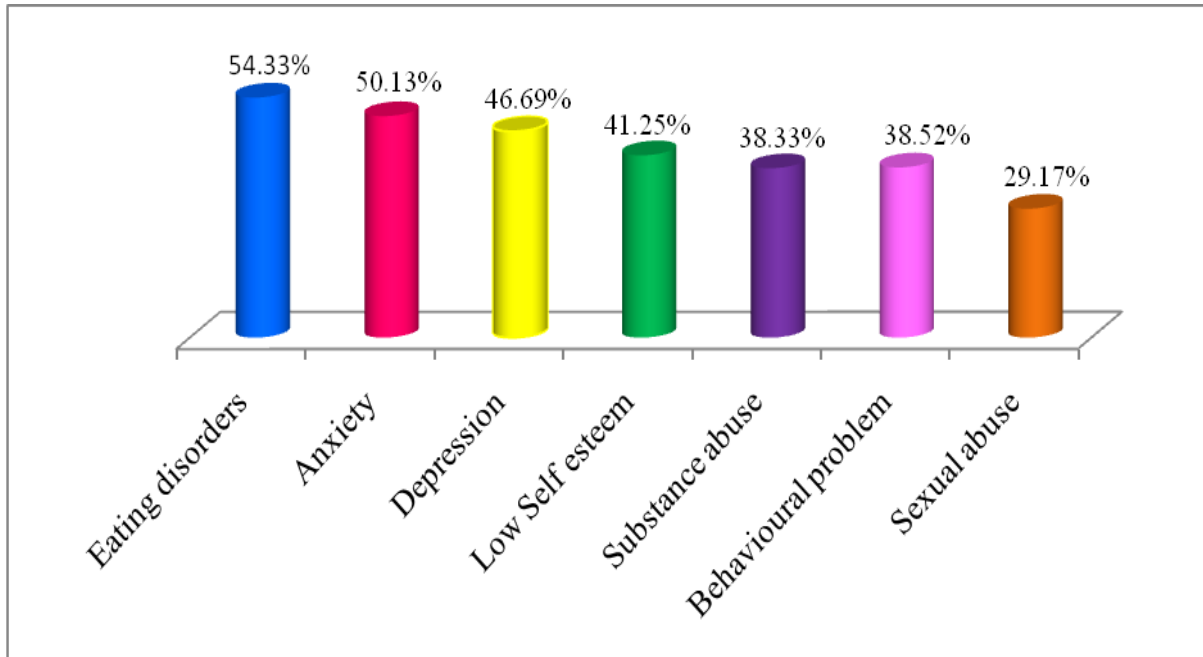
In the present study, the most common problem being found among preadolescent girls with early puberty is eating disorders (53.3%) followed by anxiety (50.1%) and depression (46.6%) There was association found between substance abuse and age, religion with anxiety and eating disorders, education of mother and depression.

The findings are supported by the similar results noted in a cross sectional descriptive study conducted by Choudhary S. *et al.*, among adolescent girls in rural area of Varanasi in 2010, where 45.38% of the girls had poor eating. A study conducted by Sequeira D.F. *et al.*, among 231 pre-adolescent girls who attained menarche revealed that 55% of the subjects had moderate anxiety.

**Fig.1 Levels of psychosocial problems of preadolescent girls with early onset of puberty**



**Fig.2** Psychosocial problems among preadolescent girls with early onset of puberty showing mean percentage score



**Table.1** Distribution of psychosocial problem scores showing Mean, SD and Range among Preadolescent with early puberty

n=100

Areas of problems	Maximum Score	Range	Mean	SD
Eating disorders	12	4-12	6.52	2.05
Anxiety	68	19-56	34.09	8.72
Depression	48	13-40	22.41	6.62
Behavioural problem	80	20-59	30.82	7.54
Substance abuse	12	4-10	4.6	0.98
Sexual abuse	12	3-12	3.5	1.32
Low Self esteem	40	10-36	16.52	5.43

**Table.2** Association between psychosocial problems of preadolescent girls and selected baseline Data

n=100

Baseline Data		Frequency	Areas of psychosocial problems	df	$\chi^2$	P value
Age (yrs)	10	10	Substance abuse	10	18.84	0.042*
	11	37				
	12	53				
Religion	Hindu	35	Anxiety	68	88.45	0.048*
	Muslim	1	Eating disorders	16	36.32	0.003*
	Christian	64				
Education of mother	Primary school	2	Depression	120	1.497	0.034*
	Middle school	4				
	High school	18				
	Secondary school	7				
	Graduate	40				

**Table.3** Distribution of preadolescent girls according to their baseline characteristics

n= 100

Variables		Frequency and percentage
Age (yrs)	10	10
	11	37
	12	53
Religion	Hindu	35
	Muslim	1
	Christian	64
Family	Nuclear	49
	Joint	47
	Single parent	4
Education of mother	Primary school	2
	Middle school	4
	High school	18
	Secondary school	7
	Graduate	40
	Professional/technical	29
Occupation of mother	Unemployed	61
	Daily wages	5
	Self employed	5
	Government employee	11
	Private employee	18
Locality of house	Urban	31
	Rural	69
current stay	With father and mother	82
	Mother alone	3
	Father alone	1
	With relatives	6
	Hostel	8
Ordinal position	First	44
	Second	38
	Third	18
Age of first menstruation	Less than 10 years	3
	Between 10-11 years	44
	Between 11-12 years	53

The relationship between pubertal status and symptoms of depression, stress, anxiety, stress perception and self-esteem was evaluated by Huerta *et al.*, (2002) results showed symptoms of severe depression (3%), severe anxiety (2.1%) among girls. The present showed that the mean percentage of anxiety and depression was 50.1% and 46.6% respectively.

Sinha S (2014) assessed the psychosocial aspects of changes associated with adolescent girls among VI to XII standard and the result revealed that 41% of the girls had anxiety and 26.4% reported suffering from low self-esteem.

The present study showed that the mean percentage of low self-esteem was 41.25% among preadolescent girls. It was correlating with a study conducted by Stojkovic (2013) where the perceived early maturation among girls between 10-13years was related to low self-esteem.

The period of adolescence may be a high risk phase in terms of the onset and escalation of psychosocial problems. Results of this study showed association between substance abuse and age, religion with anxiety and eating disorders, education of mother and depression. Puberty is a time of increasing stresses and challenges among young girls, as children adapt to their changing social roles. For this reason, mental health issues often first emerge in adolescence. Results of the psychosocial problems of preadolescent girls with early puberty revealed the extensiveness of problems among the young girls. These surveys disclose the need for more widespread school health programs about coping methods to prevent problems associated with early puberty. These efforts should begin before girls enter puberty.

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