

## Knowledge on Pubertal Changes Among Adolescent Girls

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### ABSTRACT

Background: Puberty is stage of life in which girls reach sexual maturity.<sup>1</sup> The exact period when a normal puberty begins is not defined. But the duration of puberty lasts approximately about 2-3 years and over this time the pubertal changes occurs slowly.<sup>2</sup> This is a transition phase which makes them vulnerable to a number of problems, for example, psychosocial problems, general and reproductive health problems, and sexuality related problems.<sup>3</sup> Aim: The present study was aimed to assess knowledge on pubertal changes among adolescent girls. Methodology: A nonexperimental descriptive research design was adopted to assess the knowledge on pubertal changes among adolescent girls between 12-15 years of age in selected school at Karaikal. By purposive sampling technique, 108 adolescent girls studying in 6th, 7th, 8th and 9th standard were selected for the present study. A pretested self structured interview schedule was used to collect the data from the study participants. Descriptive statistics along with chi square statistics were used to analysis the collected data. Results: The results of the present study revealed that the mean age at menarche was 12.25±0.94. The present study revealed that the majority 71% (77) adolescent girls had inadequate knowledge with mean & SD 6.57±2.27, 23% (25) had moderately adequate knowledge with mean & SD 12.24±1.05 and the least 6% (6) had adequate knowledge with mean & SD 16.83±0.77 on pubertal changes. The overall mean knowledge on pubertal changes was 8.45 with Standard deviation 0.44. There was a significant association between level of knowledge on pubertal changes with demographic variables such as age (X<sup>2</sup>= 0.042), mother's education(X<sup>2</sup> = 0.023), mother's occupation (X<sup>2</sup>= 0.022) and religion (X<sup>2</sup> = 0.002) of the adolescent girls. Conclusion: Inadequate knowledge on pubertal changes predisposes adolescent girls to anxiety, stress and inadequate coping pattern. Hence it is necessary to create awareness through health education programme to the adolescent girls particularly before the onset of puberty to reduce stress and to enhance coping pattern

### Keywords:

Knowledge, Pubertal Changes, Adolescent Girls

### 1. Introduction

Adolescent period is a transition period through which the child transforms into mature adult life. It is the age group between 10–19 years and is characterized by rapid physical growth, psychological, behavioural and social changes.<sup>4</sup> The change that takes place among adolescence is termed as pubertal changes and has five categories viz prepubertal, early pubertal, midpubertal, late pubertal and postpubertal stage<sup>5</sup>. The timing of puberty depends on various factors. Genetics plays a major role in the timing of puberty and other factors that influences puberty includes race, status of nutrition, exposure to chemicals & intake of medications that disrupts endocrine functions, geographic location and environmental factors, psychological factors & emotional status, physical activity, hormonal influences such as leptin and kisspeptin and history of chronic illness, etc<sup>6</sup>. Pubertal changes in girls often begin with the development of external secondary sexual characteristics such as breast enlargement and growth of hairs at axilla and pubic area. Along with these changes, acceleration in weight and height occurs in early stage of puberty whereas menarche, the onset of menstrual bleeding occurs in the late stage of puberty. Bodily changes along with hormonal influences produce guilt, confusion, anxiety, stress and even depression to many adolescent girls.

Adolescent girls can demonstrate different reactions to the complex changes occurring during puberty. It is distressing to go through these changes and may develop unfavourable attitudes towards these changes. Data from different studies conducted in various parts of India reported that 74% of the adolescent girls experienced high level of stress with the highest mean percentage stress score 81.2% in the area of body image changes and 70.9% in the area of gender related stress<sup>8</sup>, 56.7 % were facing irritation problems<sup>9</sup>, 56.8% adolescent girls reported sudden mood change during puberty<sup>10</sup> and only 28% respondents knew the difference between puberty and menarche<sup>11</sup>. With respect to knowledge on puberty, different studies illustrated that the 41-74% adolescent girls<sup>7, 12, 14</sup> had inadequate or poor awareness on pubertal changes which constitute the major reason for negative attitude towards pubertal changes among growing girls. Hence the researcher decided to assess the existing knowledge on pubertal changes in order to devise an effective awareness strategy.

## **2. Statement**

A descriptive study to assess knowledge on pubertal changes among adolescent girls at selected school, Karaikal

## **3. Objectives**

1. To assess knowledge on pubertal changes among adolescent girls
2. To associate the level of knowledge on pubertal changes with demographic variables of adolescent girls

## **4. Methodology**

A Quantitative research approach and nonexperimental descriptive research design was adopted to assess the knowledge on pubertal changes among adolescent girls. The study was carried out in the selected Ra. A.S. Pakirisamy Government High School, Karaikal Medu, Karaikal District. It is a coeducation school and the data was collection only from the adolescent girls between 12-15 years of age. A total of 136 adolescent girls, six adolescent girls were absent during the time of data collection and 22 adolescent girls were not met the inclusive data. The remaining 108 adolescent girls studying in 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> standard were selected by purposive sampling technique. A pretested self structured interview schedule was used to collect the data from the study participants. It comprised of two sections. Section A consisted of 10 items on demographic data of the study participants which included the age, educational level, parent's education, their occupation, monthly family income, religion, status of menarche and the source of obtaining information related to pubertal changes. Section B consisted of 20 items related to knowledge on pubertal changes among adolescent girls. It included 5 items on knowledge on female reproductive organs, 5 items related to meaning and factors of puberty, 6 items related to physical changes, 6 items related to physiological changes and 3 items on psychological changes during puberty. The reliability of the tool was tested by split half method ( $r=0.8$ ). Pilot study was carried out among ten adolescent school girls and it was found feasible to conduct the study. Prior permission was obtained from District education department and from head master of the school. After explaining the purpose of the study, informed assent was obtained from each adolescent girl and informed consent was got from their parents. Self structured interview schedule was used to collect the data from adolescent school girls. It took 30 – 45 minutes to collect information from

each section which consisted of 30-40 adolescent girls. Descriptive statistics along with chi square statistics were used to analysis the collected data.

## 5. Results

Descriptive statistical analysis of collected data revealed that the greatest 36.1 % (39) of study participants were belonged to 13 years and only 8.3% (9) were at the age of 15 years. Based on the educational status of the study participants, the highest 38% (41) were studying in 8<sup>th</sup> standard, 25% (27) were studying in 7<sup>th</sup> standard, 22.2% (24) were studying in 9<sup>th</sup> standard and least 14.8% (16) were studying in 6<sup>th</sup> standard.

The majority 31.5% (34) of adolescent girl's mother had up to primary education; the highest 33.3% (36) of the adolescent girl's father had up to secondary and only 4.6% (5) had degree/diploma as their education. With respect to mother's occupation the majority 55.6% (60) were house wife and only 3.7% (4) were working as a government employee. Based on the occupational status of the father, the greatest 75.9% (82) were self employed and only 0.9% (1) was government employee.

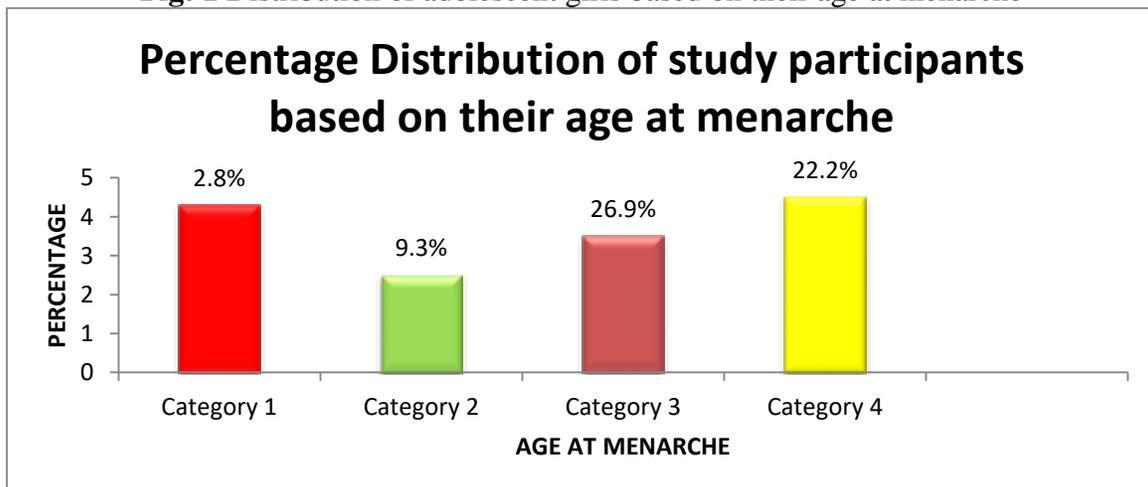
The greatest 62% (67) had less than Rs.5,000/- as their monthly family income and only 4.6% (5) had monthly family income of above Rs. 15,000/- The majority of study participants 97.2% (105) were belonged to Hindu religion.

Among the study participants, the larger number 71 (65.7%) attained menarche and only 37 (34.3%) were not attained menarche. The results of the present study revealed that the mean age at menarche was  $12.25 \pm 0.94$ .

Regarding the source of obtaining information on pubertal changes, the majority 70.4% (76) were reported getting information through their mother and only 2.8% (3) got through health professional.

The present study revealed that the majority 71% (77) adolescent girls had inadequate knowledge, 23% (25) adolescent girls had moderately adequate knowledge and the least 6% (6) had adequate knowledge on pubertal changes.

**Fig: 1** Distribution of adolescent girls based on their age at menarche



**Table: 1** Areawise knowledge on pubertal changes among adolescent girls

Area wise Knowledge	Maximum score	Mean score	Standard Deviation	Mean percentage
Puberty	5	2.16	0.44	43.2
Physical changes	6	2.56	0.45	42.67
Physiological changes	6	2.22	0.41	37
Psychological Changes	3	1.51	0.58	50.33
<b>OVERALL</b>	20	8.45	0.44	42.25

**Table: 2** Knowledge on pubertal changes among adolescent girls

KNOWLEDGE LEVEL	FREQUENCY	PERCENTAGE	MEAN	STANDARD DEVIATION
Inadequate	77	71	6.57	2.27
Moderately adequate	25	23	12.24	1.05
Adequate	6	6	16.83	0.75
Total	108	100	8.45	0.44

The findings of the present study represented that there was a significant association between level of knowledge on pubertal changes with demographic variables such as age ( $X^2 = 0.042$ ), mother's education ( $X^2 = 0.023$ ), mother's occupation ( $X^2 = 0.022$ ) and religion ( $X^2 = 0.002$ ) of the adolescent girls. There was no significant association between the level of knowledge on pubertal changes with demographic variables like educational level ( $X^2 = 0.064$ ), father's education ( $X^2 = 0.699$ ), father's occupation ( $X^2 = 0.976$ ), monthly family income ( $X^2 = 0.434$ ), age at menarche ( $X^2 = 0.156$ ) and source of obtaining information ( $X^2 = 0.186$ ) related to pubertal changes.

## 6. Discussion

The present study revealed that the majority 71% (77) adolescent girls had inadequate knowledge, 23% (25) adolescent girls had moderately adequate knowledge and the least 6% (6) had adequate knowledge on pubertal changes. The result of the present was supported by the study findings of **Manisha Rani, Poonam Sheoran and Yogesh Kumar<sup>7</sup> (2016)** which reported that the majority of pre- adolescent girls 75%, had below average knowledge regarding pubertal changes followed by 25 % girls had average level of knowledge. Less knowledge among adolescent girls predisposes them to stress, confusion and this necessitates the need for awareness programme to the prepubertal girls to reduce stress and to enhance coping mechanism.

The result of the present study portrayed that the overall mean percentage on Knowledge on Pubertal changes among adolescent girls was 42.25%. This was inconsistent with the study findings of carried out by **Diana SRA et al. (2020)<sup>13</sup>** which illustrated that the mean percentage of knowledge score was 60.8% in the aspect of pubertal changes. The inconsistency may be due to their cultural believes, having shame and guilt in discussing the pubertal changes with others and having less awareness through school curriculum in their prepuberty stage.

The result of the present study reported that there was a significant association between level of knowledge on pubertal changes with selected demographic variables such as age ( $X^2 = 0.042$ ), mother's education ( $X^2 = 0.023$ ), mother's occupation ( $X^2 = 0.022$ ) and religion ( $X^2 = 0.002$ ) of the adolescent girls. This was comparable with the research findings conducted by **Chethana D Poojary et al. (2015)**<sup>14</sup> which depicted that there was a significant association with selected demographic variables such as age, religion, previous information regarding pubertal changes.

## 7. Conclusion

Inadequate knowledge on pubertal changes predisposes adolescent girls to anxiety, stress and inadequate coping pattern. Hence it is necessary to create awareness through health education programme to the adolescent girls particularly before the onset of puberty to reduce stress and to enhance coping pattern. This help in removing negative attitude, myths and misconceptions related to pubertal changes. Promoting awareness programme and counseling to the adolescent girls enhance better decision making in choosing healthy practices in their future reproductive life.

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