Pubertal changes: Knowledge among school aged girls
Chethana D Poojary¹, Delna John¹, Christy Babu¹, Renita Priya D'souza², Asha P Shetty³
¹Students, Final Year B.Sc. Nursing, Yenepoya Nursing College, Yenepoya University, Mangaluru, Karnataka, India
²Assistant Professor, Department Of Child Health Nursing, Yenepoya University, Mangaluru, Karnataka, India
³Principal, Yenepoya Nursing College, Yenepoya University, Mangaluru, Karnataka, India

Abstract: Adolescent girls are the future mothers. Going through the puberty can be challenging time for any girl. Although it may occur at different ages for all girls, adolescent girlhood is always a critical time of identity formation and a period of transition from childhood to womanhood. Due to lack of provision of knowledge regarding puberty the adolescent girls go through the physiological and emotional stresses and malpractices. A descriptive survey design was used to assess the knowledge of school aged girls regarding pubertal changes. Study also aimed at finding the associated demographic factors with the knowledge regarding pubertal changes. A non-probability purposive sampling technique was used to select the 100 subjects from a private higher primary school at Mangaluru. The data was collected by using the structured knowledge questionnaire. Study results revealed that 41% of girls had inadequate knowledge, 58% had moderate knowledge and 1% had adequate knowledge regarding pubertal changes and knowledge was associated with age, religion and those who had received previous information regarding pubertal changes. Study concludes that even though school aged girls have some knowledge regarding pubertal changes but it is not sufficient to overcome the stress faced by them. They must be adequately educated to have a balanced life during puberty.

Keywords: Adolescents, Knowledge, Primary school, Pubertal Changes, Puberty.

I. INTRODUCTION

Beginning from the day of conception even after birth and till death people go through many changes in life throughout various stages. Children first grow rapidly and they enjoy every drop of their life as they grow and they feel compete and untouchable. But everything doesn’t feel to be normal as puberty begins. Although it was expected it feels so different and life will change¹. The process by which physical changes takes place and children’s body matures to make them capable of sexual reproduction and to enable them for fertilization is called as puberty. It is initiated by hormonal signals from the brain to the gonads: the ovaries in a girl, the testes in a boy.² As per WHO statistics among world’s total population, adolescents i.e. individuals between the ages of 10 and 19 years, make up approximately 20%. UNFPA’s State of World Population (2005) estimates that there are 1.2 billion adolescents between 10-19 years of age today.³

A study conducted in Dutch children concluded that pubertal development has small but significant effects on the development of problem behaviour in early adolescence. Another survey was conducted in Baltimore, USA concludes that the health educators and clinicians may need to focus on physiologic areas to provide more meaningful information about development to early adolescents.⁴ A survey was conducted in Gujarat, showed that there were only 38.5% felt comfortable about menarche and only 31.0% believed that menstruation was a normal physiological process. Many (37.2%) had not been informed about menarche before its onset and 48.2% felt they were not mentally prepared. The major sources of information were the mother (60.7%) or an elder sister (15.8%); teachers and other relatives played a small role.⁵

A study conducted in Kolkata on menstrual hygiene concluded that the school nurse / health personal could motivate school teachers and parents to play a very important role in transmitting the message of correct menarche and menstrual hygiene to the adolescent girl of today.⁶

II. MATERIAL AND METHODS

A non-experimental descriptive design was used for the present study. The purposive sampling technique was used to select the 100 school girls studying at 5th, 6th and 7th std children in a private Higher Primary School at Mangaluru. Girls who were not willing to participate were excluded. Ethical clearance certificate was obtained from the University’s Ethical committee. All participants enrolled in the study were able to understand and write English. The purpose of the research was described in detail prior to obtaining written informed consent from all participants and confidentiality of the data was ensured.
A pretested validated structured knowledge questionnaire developed by the investigators was used for this study. It consisted of two parts, in which first part was demographic variables like age, religion, class of study, education and occupation of parents, attainment of menarche, receiving previous information on pubertal changes. The second part consisted of 30 multiple choice questions based on puberty and pubertal changes. Each correct answer was scored 1 and incorrect answer scored zero. The grading of knowledge score was done as scores between 21 and 30 as adequate, 0-10 as inadequate knowledge. The questionnaire was given to the subject experts to establish the content validity. Reliability of the tool was established by split half method using Karl Pearson coefficient of correlation followed by Spearman’s Brown Prophecy formula. The score obtained was 0.7 and the tool was found to be reliable. Permission was obtained from the concerned authority prior to the data collection and data was collected from a higher primary school at Mangaluru. The questionnaire was explained in simple terms and they were asked to choose the right answer from the options. It took 30-45 minutes for the subjects to answer the questionnaire. A pilot study was conducted previously to find the feasibility of the study and was found to be feasible. The collected data was analysed in terms of the objectives of the study.

### III. RESULTS

#### Section I: Demographic Performa

As shown in table 1 among 100 samples from whom the data was collected 49% of samples were 12 years, 79% samples were Hindus, 44% belongs to 7th standard, 70% samples belongs to nuclear family, 41% parents were having secondary and higher secondary classes, 46% parents were business or self-employers 70% sample did not attain menarche.

**TABLE 1: DESCRIPTION OF SAMPLES BASED ON DEMOGRAPHIC CHARACTERISTIC**

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Sample characteristics</th>
<th>Category</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age in years</td>
<td>9</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>22</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>28</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>49</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td>Religion</td>
<td>Hindu</td>
<td>79</td>
<td>79%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Muslim</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Christian</td>
<td>18</td>
<td>18%</td>
</tr>
<tr>
<td>3</td>
<td>Class of study</td>
<td>5 std</td>
<td>22</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 std</td>
<td>34</td>
<td>34%</td>
</tr>
<tr>
<td>4</td>
<td>Type of family</td>
<td>7 std</td>
<td>44</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nuclear</td>
<td>70</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joint</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>5</td>
<td>Dietary habits</td>
<td>Veg</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mixed</td>
<td>81</td>
<td>81%</td>
</tr>
</tbody>
</table>

#### Section II: Distribution of sample according to knowledge scores

As figure 1 shows analysed data reveals that, 58% has moderate knowledge, 41% of girls had inadequate knowledge and 1% has adequate knowledge regarding pubertal changes among school aged girls of higher primary school with mean knowledge score 11.17.

![Knowledge Grading](image)

**Figure 1: Knowledge scoring of school aged girls regarding pubertal changes**
Section III: Association between knowledge of school aged girls regarding pubertal changes with selected demographic variable

The data analysed shows that there was association between the knowledge of school aged girls regarding pubertal changes and demographic variables such as age, religion, previous information regarding pubertal changes. No significant association was seen between knowledge scores and demographic variable such as class of student, type of family, education status of parents, attainment of menarche and source of previous information on pubertal changes.

IV. DISCUSSION

The result shows that maximum percentage of (49%) of them was in the age group of 12 years and in class of seven. 70% were belongs to nuclear family and 79% belong to Hindu religion. The findings of the study are consistent to a study on questionnaire survey of knowledge, attitudes and beliefs towards menstruation was made in 22 schools in Gujrat, India [2006]. Of 900 schoolgirls aged 11-17 years, only 38.5% felt comfortable about menarche and only 31.0% believed that menstruation was a normal physiological process. Many (37.2%) had not been informed about menarche before its onset and 48.2% felt they were not mentally prepared. The major sources of information were the mother (60.7%) or an elder sister (15.8%); teachers and others relatives played a small role. In this area of India, many families continue the custom of celebrating the first menarche and observing social restrictions. The finding shows that the knowledge regarding preparation for puberty and menstruation is not provided to the girls. The present study reveals that 41% of girls had inadequate knowledge, 58% has moderate knowledge and 1% has adequate knowledge regarding pubertal changes.

A similar study was conducted in Nigeria, to know the Menstrual knowledge and practices amongst secondary school girls and [2000], revealed that out of 352 randomly selected healthy Nigerian school girls, 187 (53.1%) had attained menarche and 40% of subjects were deficient in knowledge about menstruation. Although menstrual knowledge was higher in post-menarcheal girls, 10% of these were totally ignorant about menses and 84% were not psychologically prepared for the first menses. Girls' menstrual knowledge was positively associated with parental education. The major source of menstrual information was the family. Although more than half of the girls menstruated regularly, 66.3%, used insanitary materials as menstrual absorbent. The mean duration of menstrual flow was 4.32 +/- 1.15 days (mean +/- SD) with a range of 3-7 days in 95.2% of the study population. The study recommended that there is an acute need for education and psychological preparation of girls for menstruation well ahead of menarche.

V. CONCLUSION

The study findings reveal that School aged girls do not have adequate knowledge regarding pubertal changes and they are not well prepared for puberty As puberty brings many changes in the body it can be a stressful period for many girls. Hence a proper education awareness regarding pubertal changes is very much necessary for the pre adolescent girls. The study results recommend that a similar study can be conducted in rural area as well as among both genders.

REFERENCES


Acknowledgement

We thank University officials, our teachers, colleagues and friends who greatly supported and provided timely guidance and assistance during our study. We are grateful to our institution for providing an opportunity to conduct our study. We show our heartfelt gratitude to the participants, their parents and school officials and teachers for cooperation throughout the study.

Conflict of Interest

The authors declare that they have no competing interest.