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Knowledge regarding Pubertal Changes among Adolescent girls: A cross sectional study

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Abstract

Adolescent girls need to have adequate knowledge about puberty and its causes. Puberty is the time of change for every adolescent girl. Due to lack of knowledge regarding puberty, the adolescent girls go through the physiological and emotional stresses and malpractices. In Indian society, most of the girls do not get adequate knowledge about their own bodies. Most of the problems are derived from the widespread ignorance of the body changes and natural process which occur during puberty. It is important for pre-adolescents to understand themselves and the functions of their body, so that they can cope up with the changes that are taking place within them, and develop healthy attitude to sex, marriage, parenthood and family. The present study was carried out with the objectives to assess the knowledge regarding pubertal changes among adolescent girls. A cross sectional study was carried out among adolescent girls of 6th to 12th standard studying in school of Patna district. A pre designed, structured self administered questionnaire was used to gather information. Out of 250 students only 25.92% of below 14 year had knowledge of growth of pubic hair in adolescence. 56.8% respondents reported sudden mood change during puberty. Mother was the major source of information related to puberty among 66% adolescent girls. 58.7% found necessary solution from their peers. Only 50.8% discussed problems related to puberty with parents.

Key word: Adolescent, Pubertal changes, Knowledge.



Introduction

Adolescence as a cultural construct has been understood in many different ways throughout the world, however. In general terms, it is considered a time of transition from childhood to adulthood, during which young people experience changes following puberty characterized by physical growth, sexual maturation and psycho-social development.^(1,2)

In 2005, there were 1.21 billion adolescents in the world – the largest-ever number in the history of mankind. Adolescent population is estimated to continue to increase until the year 2040, to finally reach 1.23 billion.⁽³⁾

Adolescence is a period of increased risk-taking and therefore vulnerability to behavioral problems at the time of puberty and new concerns about reproductive health.⁽⁴⁾ Thus, in order to lead healthy, responsible and fulfilling lives, and protect themselves from reproductive health problems, young people need to be aware about themselves and others.⁽⁵⁾

Adolescent girls, a more vulnerable group, particularly in developing countries, comprise about 22% of women in India. They are the mothers of tomorrow and the load of planned reproduction rests on them. Studies in different parts of the country have revealed poor knowledge of adolescent girls even in topics such as menstruation, contraception, pregnancy – a crucial aspect if India is to achieve the net reproduction rate of 1 by 2016 AD.^(6,7)

Puberty is the time of conflict; it is the time of life when the child begins to feel liberated, reach sexual maturity and needs guidance. It is the time of contrast because the child shifts between feelings of a being a child and becoming an adult. This is the time they need explanation about the process of puberty that unfolds for everyone and what changes to expect. As most of the pre adolescent girls are lacking knowledge regarding the pubertal changes and menarche.

In some cases parents forget their responsibility to transfer health information to their children due to either embarrassment or ignorance or life commitments. They cannot understand the challenge and pain their children have in this process and put the responsibility of informing their children on the shoulders of teachers who may ignore it as well. In such circumstances adolescents will go to friends, siblings and mass media to get the information they need. This will lead to wrong or incomplete information and misunderstanding of the situation. Thus, these adolescents can create troubles for both themselves and their parents and put their physical, psychological, and social health in threat. So, to create awareness among adolescent girls about these issues this study has been conducted.

At the onset of puberty, there are signs such as breast development and pubic hair growth; girls have special needs and we need to get them ready and help them through this times in their lives.

However, to the best of our knowledge, none have attempted to find out the awareness regarding pubertal changes among the adolescent girls of Patna district among the age groups between 11 and 19 and to identify the probable socioeconomic, caste category, age wise knowledge regarding pubertal changes among adolescent girls.



It was felt that there is absence of reliable sources of information related to pubertal changes among the girls because in cities mostly both parents are working and due to lack of time they can't give complete information related to puberty. There is a need of identifying the knowledge and awareness related to pubertal changes. It is also important to develop awareness and healthy attitude in the society to reduce the fear related to first period.

In this context, this study was undertaken to find out knowledge regarding pubertal changes among adolescent girls of Patna district.

Methodology

Type of Study: Community-based cross-sectional observational study.

Study Setting: The present study was undertaken at different schools including private and government schools of Patna.

Study Subjects: Adolescent girls between the age group 10-19yrs.

Inclusion criteria:

1. All adolescent girls who are willing to give informed consent to participate in the study.

Exclusion criteria:

1. All the adolescent girls who are not willing to give informed consent to participate in the study.
2. All the adolescent girls who are mentally challenged.

Study Duration: Total duration of three month.

Sample Size: 250 adolescent girls were included as sample. Simple random sampling method was used to select the respondents.

Study Instrument: A pre-designed, pre-tested questionnaire.

Method of data Collection: For the purpose of study, a set of schedule were prepared for in depth interview and obtain information from the respondents about knowledge regarding pubertal changes. The participants were explained regarding the purpose of the study. Verbal informed consent was taken prior to the data collection. The study variables include general information, questions regarding knowledge about pubertal changes and its causes.

Statistical Analysis: Data obtained from the study was entered in MS excel sheet and analyzed statistically by simple proportions using statistical package for social science (SPSS) package version 20



Results

Majority of the girls (62%) were in mid adolescence (14-16 yrs) while the mean age of participants was 14.61 yrs (SD= 1.29).

Table-I: Knowledge about pubertal changes among adolescent girls according to age group

| Knowledge | Age | | Statistics |
|-------------------------------|------------------|------------------|-----------------------|
| | Up to 14 (N=162) | Above 14 (N= 88) | |
| Breast Enlargement | n = 32(19.75%) | n = 20(19.75%) | Chi- 0.306, P = 0.580 |
| Pubic Hair | n = 42(25.92%) | n = 14(15.90%) | Chi- 3.292, P = 0.070 |
| Hips Enlargement | n = 7(4.32%) | n = 13(14.77%) | Chi- 8.464, P = 0.004 |
| Increase in height and weight | n = 31(19.13%) | n = 17(19.31%) | Chi- 0.001, P = 0.972 |
| Pimples or Acne | n = 25(15.43%) | n = 10(11.36%) | Chi- 0.784, P = 0.376 |
| Facial Hair | n = 2(1.23%) | n = 6(6.81%) | Chi- 5.739, P = 0.017 |
| No Changes Feel | n = 23(14.19%) | n = 8(9.09%) | Chi- 1.369, P = 0.242 |

Table I shows perception of pubertal change with increasing age of the participant. The most common knowledge perceived by one third girls below 14 years were growth of pubic hair in the private parts. The knowledge perceived by majority of girls above 14 years were breast enlargement in this period.



Table- II Awareness regarding psychological changes and social relations among adolescent girls

| Psychological changes during puberty | Frequency (N =250) | Percentage |
|--|---------------------------|-------------------|
| Frequent argument with parents | 26 | 10.4 |
| Less dependent on family | 7 | 2.8 |
| Spend more time with friends | 48 | 19.2 |
| Future planning | 8 | 3.2 |
| Sudden mood changes | 142 | 56.8 |
| Involuntary increase in sexual feeling and fantasies | 19 | 7.6 |
| Total | 250 | 100 |

Result revealed that majority of girls reported sudden mood change during puberty.

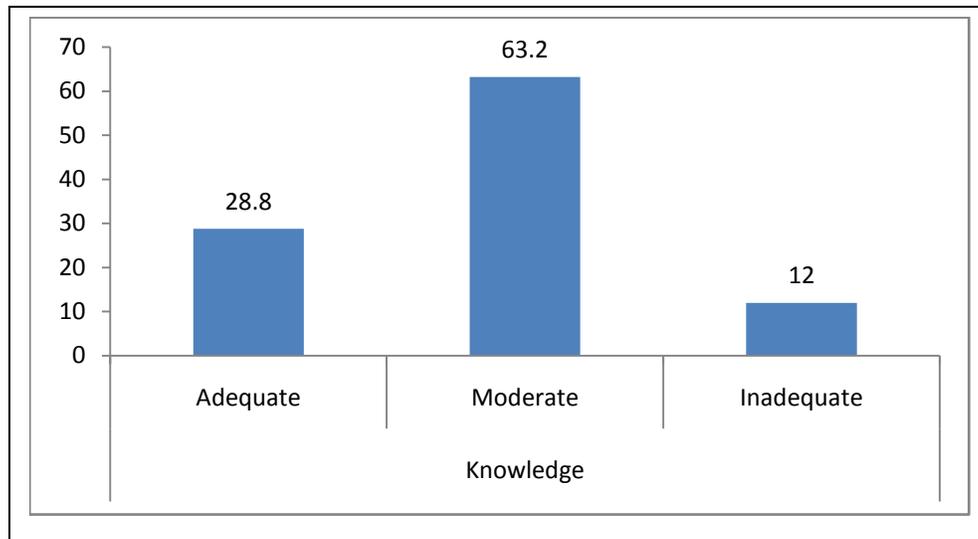
Table -III Awareness regarding causes of pubertal changes

| Causes of pubertal changes | Frequency (N =250) | Percentage |
|-----------------------------------|---------------------------|-------------------|
| Due to hormone | 168 | 67.2 |
| Nutritional imbalance | 55 | 22.0 |
| Due to disease | 5 | 2.0 |
| Don't know | 22 | 8.8 |
| Total | 250 | 100 |

Results reveals that majority of girls were aware that changes occur in their body are due to hormones.

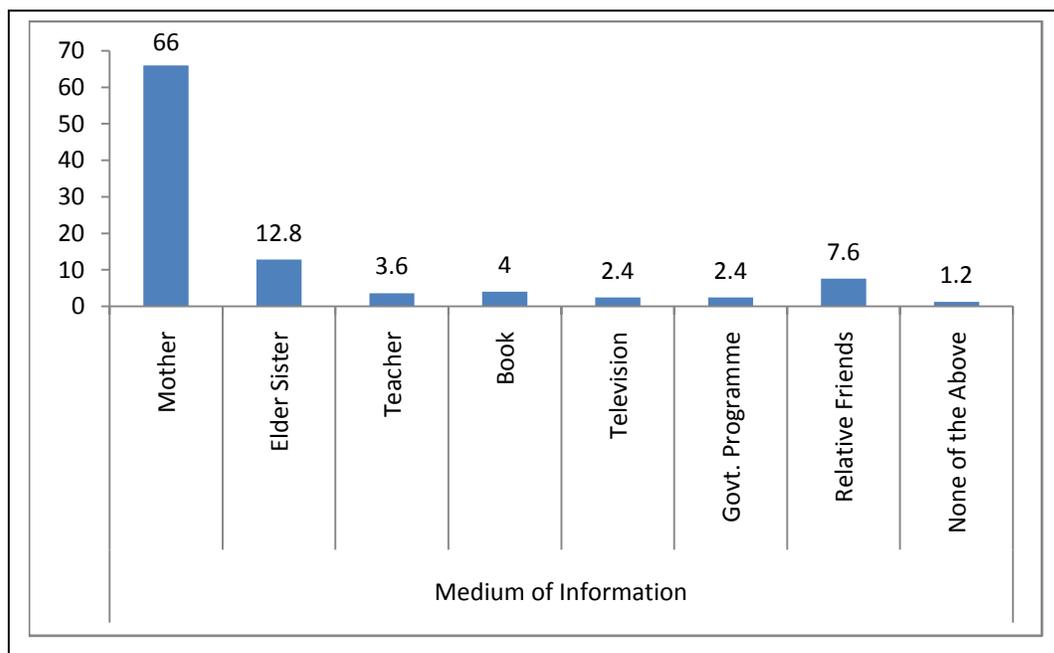


Fig -I Frequency and percentage distribution of knowledge regarding pubertal changes among adolescent girls



The result presented in Fig I revealed that the majority of girls have moderate knowledge about pubertal changes. Benefit from government programmes is now increasing slowly in the school regarding menstruation cycle and girls are now moderately aware about it.

Figure-II Major sources of information regarding puberty among adolescent girls

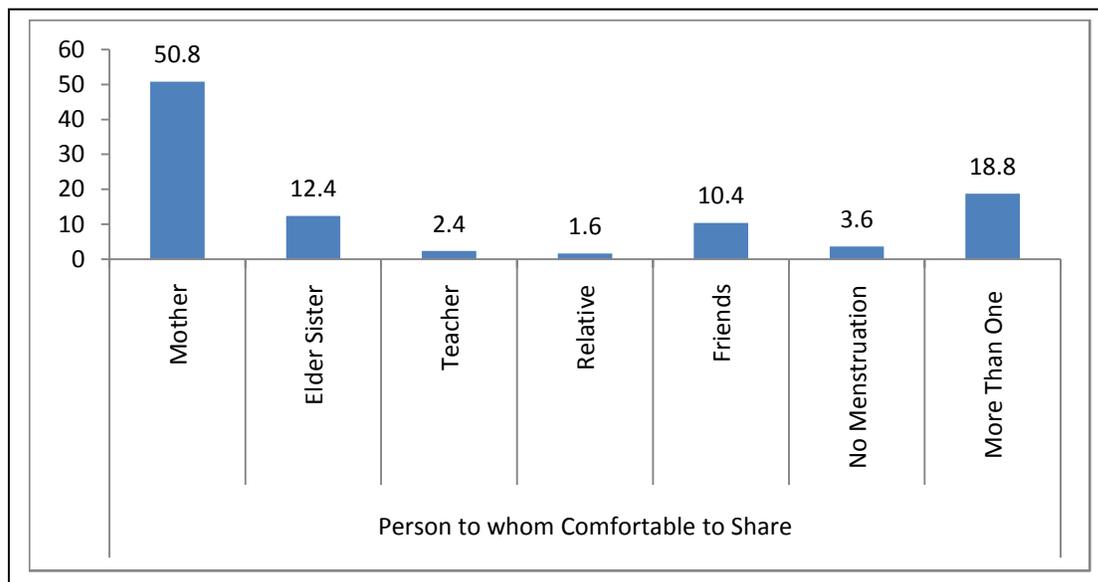




The results presented on Fig II shows the various sources of information to adolescent girls about pubertal changes. The result revealed that 66% of adolescent girls get the information from mother, 12.8% adolescent girls' source of information were elder sister, teacher were the source of information among 3.6% adolescent girls, 4% of adolescent girls get the information from books, 2.4% of adolescent girls get the information from television and government programme and among 7.6% of adolescent girls' relative and friends were the source of information.

Result revealed that among majority of girls' mother was the major source of knowledge about pubertal changes.

Fig-III Person to whom comfortable to share regarding pubertal changes among adolescent girls



The result revealed in Fig III shows that 53.2% of adolescent girls share problems related to menstruation to mother, 12.4% share with elder sister, 2.4% share with teacher, 1.2% of adolescent girls share with relatives, 10.4% of adolescent girls with friends and 18.8 % of adolescent girls share with both mother and elder sister.

Results revealed that majority of adolescent girls feel comfortable to share problems related to puberty to the mother.



Discussion

The lives of adolescents are characterized by genetic, cognitive, emotional and social changes associated with the passage through puberty. Age-related and gender-related risks and opportunities in families, communities and societies interact with individual developmental processes to create the conditions for both positive and negative health outcomes. In order to lead healthy, accountable and satisfying lives protect themselves from reproductive health problems, young people need to be knowledgeable about themselves and others.

In this present study, moderate knowledge was found among the girls topics related to pubertal changes. Knowledge about pubertal changes was significantly associated with age. In a study among adolescent girls in East Delhi by Nair *et al*, almost all the girls were aware of the weight and height gain that occurs with puberty; 59.7% were aware of the breast enlargement and 33.8% of axillary and pubic hair that accompanied puberty. One third of study subject had knowledge of menstruation. Only a one third of girls were aware of all pubertal changes. The association between knowledge of pubertal changes and increasing age was statistically significant ($p < 0.001$).⁽⁶⁾

Another study conducted in Karnataka observed that more number of rural adolescent girls knew about pubertal changes particularly primary sex characteristics (53.73%) and less number of respondents knew about secondary sex characteristics such as height and weight, pubic hair, breast enlargement and hips enlargement (75, 19.23, 14.42, and 9.61% respectively) that takes place during pubertal stage.⁽⁷⁾

In this study the students prioritized the problems faced in adolescence rank wise. The important problems of study population were general health problem (54.3%), lowering of academic performance (26.1), problems related to diet and nutrition (37.0%). In the study done by Geetha *et al* showed similar finding, that the adolescents faced headaches, body pains, and fatigue as common physical problems which was revealed in focus group discussions. A few of them mentioned weight loss, domestic problems, alcoholism in fathers and family conflicts.⁽⁸⁾

The nutritional status of Indian adolescent has been a matter of great concern for long. In the present study, the second most important problem faced by the students was related to diet and nutrition. According to NCERT the diet available to adolescents in India is inadequate in all major nutrients.⁽⁹⁾ The factors that may interfere with nutrition are inadequate food supply in relation to the quality and quantity, psychological factors affecting appetite, food fats and cultural attitude and parasitosis.⁽¹⁰⁾

For solving the problem most of them rely on mother as their 1st choice and their next choice was found to be elder sister. The finding is consistent with Dorle *et al* study which revealed that about 43.18% of the boys discussed sex matter with their friends, where as 55.56% of girls discussed it with their parents.⁽¹¹⁾ It may be due to lack of privacy and confidentiality to parents. A vital feature of middle adolescence is tendency to join a peer group and endeavor to win popularity among friends circle.⁽¹²⁾



Research and innovative strategies involving adolescent in all stages of programme development is useful. So, an educational intervention in order to provide accurate and authentic knowledge about reproductive health, related crucial issues and responsible behavior towards these issues is urgently needed to enable them to make right decisions in life.

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