

A survey of knowledge and awareness about adolescent changes in school and college going girls in semi urban area

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Abstract

Background: The adolescence age is the age of rapid physical and psychological change. Many of the adolescents remain unaware of these changes. When they start facing these changes it causes tremendous anxiety and stress among this age group. Knowledge about these changes helps them to cope up better way and to be more confident adult. This study is to find the extent of awareness about adolescent changes in adolescent girls from semi urban areas. **Methods:** A pre structured questionnaire was given to adolescent girls between 13- 18 years (after their parental consent) in selected schools and colleges to assess their knowledge about adolescent changes. The appropriate statistical methods was used to analyze the result. The Study design and Set-up was a cross-sectional, questionnaire-based study. Using prospective sampling, 388 students were selected who agreed to volunteer in the project. **Results:** The result of the study shows that with the improvement of strategies of education the awareness percentage about adolescent changes in adolescent girls has also increased compared to previous studies but still a large proportion of girls are unaware about these changes. A large percentage of girls feel insecure to talk about these to others. **Conclusion:** This indicates the need for more extensive efforts for creating awareness among school and college going girls regarding adolescent changes.

Key Words: adolescence, girls, changes.

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INTRODUCTION

Adolescence is a time period when an individual face physical growth along with the psychological and physiological development. As per WHO, the adolescent age group is 10-19years.¹ during this age there are many physical changes in girls like increase in height and weight, breast development, growth of pubic and axillary

hair, appearance of acne, as well as physiological changes during menstruation and psychological mood changes. As puberty brings many changes in the body it can be stressful period for adolescent girls. Many a times adolescents have their misbeliefs and wrong information about adolescent changes, this affects their personality as well as social and reproductive life. This study aims to assess their knowledge regarding all these changes and their mindset which will help us about their point of view and problems. In a study conducted by Ahuja and Tiwari (1995) awareness levels regarding changes were found to be low 28%.² Study conducted by Nagar S. *et al* shows that only 63% girls had partial knowledge about pubertal changes.³

Whereas a recent study by Shankar P *et al* (2017) of reproductive health awareness of adolescent girls of govt school in urban slum of Pune city showed that 80% girls were unaware of appearance of secondary sexual characteristics.

There are very few studies in India conducted on this topic of knowledge about adolescent changes in school and college going girls. India being developing country comprises youth as major part of population. In order to have proper development of nation it is necessary to understand the adolescent age group and help them to shape their identities. Hence the aim behind conducting this study is to assess the study population being rural and urban teenage girls in order to highlight the importance of health counseling of adolescents and to avoid their further misconception and misbeliefs regarding changes.

Review of Literature:

Adolescent age is a transition from childhood to adulthood. This phase of life presents with numerous changes in child's body, mind and behavior. Knowledge about these changes helps them to cope with it better and adjust to the new phase in life more efficiently and effectively. The earlier studies carried out in different parts of the world and in India have shown different level of awareness about the adolescent changes in school girls. A quantitative survey by Kotecha PV *et al* showed that only 52.3% female adolescents perceived physical changes and 66.1% females were aware of sexual changes.⁵ In a community based cross-sectional study by Sadhana G *et al* among 1700 school going adolescent girls of 15-19 years age in Gorakhpur city between the period 2000-2002 it was seen that 17.4% of the adolescent girls were not aware about facts of adolescent physical changes and menarche whereas the rest of the girls either had partial or good awareness.⁶ The results from a study by Shiela W *et al* published in 1993 showed that awareness about menstrual changes among young girls was 66.1%.⁷ A study conducted by Avachat SS *et al* at village Loni in Maharashtra has shown that there is intense need of sex education and it has significant impact on knowledge of adolescent school children.⁸ A meta-analysis by Chandra Mouli *et al* of 81 studies from Lower and middle income countries which were published in peer-reviewed journals between years 2000-2015 which described the experiences of adolescent girls from 25 different countries has shown that adolescent girls from lower and middle countries are often uninformed and unprepared for menarche. The information about the adolescent changes is primarily obtained from mothers and other female family members who may not be necessarily well informed to teach the adolescent girl about the changes. More problematic is that relatives and teachers are often not prepared to respond to the needs of girls.⁹ A study conducted in bijapur, Karnataka by Ud giri R *et al* has shown that 81.58% adolescent girls were lacking knowledge about menstruation prior to menarche, this reflects upon the standard of awareness in adolescent about this issues.¹⁰ A study conducted by Kotecha PV *et*

al in 2012 in city of Vadodara about awareness of reproductive health it is found that higher proportion of boys and girls could identify visible external changes in the opposite sex as compared to the changes not seen outwardly and found that sources of information on human reproduction for most of the boys and girls were schoolbooks, television, teachers, friends and parents in this order.¹¹ Thus studies carried out in India and in other countries have shown that there is need for adolescent education and the knowledge varies from low level to high level in different areas. Thus there felt a need to get more data on this to analyze whether there is any change in knowledge level and other factors over a period of years after implementation of school based reproductive health education program.

AIM

1. To study the knowledge of adolescent changes in school and college girls.

OBJECTIVES

- I. To study the extent awareness regarding adolescent changes in school and college going girls.
- II. To assess the need for adolescent friendly informational and communicative activities.

MATERIALS AND METHODS

Type:- Non experimental cross sectional study

Place:- Schools and junior colleges in Talegaon Dabhade, Dist Pune.

Sample Size:- 388 Students between age 13-18 years. Prospective sampling technique used.

Previous studies have reported knowledge about adolescent changes to be 66% to as low as 28% .

Considering minimum awareness at type I error $\alpha = 0.05$ and type II error $\beta = 0.15$ that is, power of test = 85% the estimated sample size is 360. The formula used is: $n = \frac{z^2 \times pq}{l^2}$

Study population around 359 girls mid adolescents 13-15 years and late adolescents 16-18 years

Method

A pre structured questionnaire was given to adolescent girls between 13- 18 years (after their parental consent) in selected schools and colleges to assess their knowledge about adolescent changes and the appropriate statistical methods was used to analyze the result at the end of the 2 months.

Selection of cases

Inclusion criteria – Adolescents who are between age 13- 18 years are selected who are able to read, write, and understand Marathi and English.

Exclusion criteria –

1. Any student physically and mentally disabled student
2. Student without consent from parents.

Risk factors : No risk factors as no laboratory tests or any other interventions are performed.

Study Tools:-

1. Semistructured Questionnaire in English and Marathi.
2. Assent form.

The study was approved by the Institutional Ethics Committee.

RESULTS

The statistical data was collected and analyzed by calculating frequencies of various replies observed using appropriate statistical software.

Table 1: Indicating Demographic Distribution of data

| Sr.No. | Variable | Groups | Frequency (Total n = 359) | Percentage |
|--------|---------------------|------------------------|---------------------------|------------|
| 1. | Age | 13- 15 years | 142 | 39.55% |
| | | 16-18 years | 217 | 60.45% |
| 2. | Religion | Hindu | 299 | 83.29% |
| | | Muslim | 21 | 5.85% |
| | | Christan | 13 | 3.62% |
| | | Others | 26 | 7.24% |
| 3. | Standard | 8 th | 79 | 22.01% |
| | | 9 th | 35 | 9.75% |
| | | 10 th | 34 | 9.47% |
| | | 11 th | 105 | 29.25% |
| | | 12 th | 106 | 29.53% |
| 4. | Board of Education | CBSE | 22 | 6.13% |
| | | SSC | 220 | 61.28% |
| | | HSE | 117 | 32.59% |
| 5. | Family Type | Joint | 152 | 42.34% |
| | | Nuclear | 207 | 57.66% |
| 6. | Residence | Urban | 185 | 51.53% |
| | | Rural | 174 | 48.47% |
| 7. | Education of mother | Illiterate | 37 | 10.31% |
| | | < 10 th Std | 139 | 38.72% |
| | | 12 th std | 108 | 30.08% |
| | | Graduation/PG | 75 | 20.89% |
| 8. | Education Of Father | Illiterate | 16 | 4.46% |
| | | < 10 th std | 110 | 30.64% |
| | | 12 th std | 114 | 31.75% |
| | | Graduation/PG | 119 | 33.15% |

Table 2: Table representing the Knowledge about adolescent changes

| Sr.No. | Variable | Sub groups | Frequency | Percentage |
|--------|--|---------------------|-----------|------------|
| 1. | Increase in height and weight | Yes | 298 | 83.01% |
| | | No | 61 | 16.99% |
| 2. | Enlargement of Breast | Yes | 286 | 79.67% |
| | | No | 73 | 20.33% |
| 3. | Development of Hair in Private Parts | Yes | 301 | 83.84% |
| | | No | 58 | 16.16% |
| 4. | Changes in Private parts. | Yes | 237 | 66.02% |
| | | No | 122 | 33.98% |
| 5. | Age of onset of menses. | 11 years - 13years | 195 | 56.03% |
| | | 14 years – 16 years | 153 | 43.97% |
| 6. | Knowledge of hygiene practices during menses | Yes | 308 | 85.79% |
| | | No | 51 | 14.21% |
| 7. | Source of information about adolescent changes | Mother | 205 | 57.15% |

| | | | |
|-----|---|-----|--------|
| | School lecture and teachers | 74 | 20.58% |
| | Sister ,grandmothers | 25 | 6.87% |
| | Books ,TV, Movies | 24 | 6.73% |
| | None | 31 | 8.67% |
| 8. | Felt changes in confidence level | 238 | 66.30% |
| | Yes | 121 | 33.70% |
| | No | 117 | 32.59% |
| 9. | Felt Insecure and Anxious about these changes | 16 | 4.46% |
| | Sometimes | 118 | 32.87% |
| | Most of the times | 108 | 30.08% |
| | Never | 101 | 28.15% |
| 10. | Talking about the insecurity to someone. | 205 | 57.00% |
| | Mother | 36 | 9.97% |
| | No one /Doesn't talk | 36 | 9.97% |
| | Best Friend | 17 | 4.88% |
| | Sister / relative/ grandmother | | |

The response rate obtained during study was 100%. Following observations and results obtained after statistical analysis.

The study sample was unequally distributed among two age groups that is among age group 13-15years (39.55%) and among 15-18 years (60.45%) . This difference was obtained because of resistance from parents of young adolescents to give consent for the study. Study sample was predominantly of Hindu (83.29%) religion followed by Muslim (5.85%) and christen (3.62%) it represents the religious distribution of the study area. In this study population student from state board SSC (61.28%) were more than CBSE board (6.13%). Study area being semi urban type, in this area student living in joint family are (42.34%) ,whereas nuclear family (57.66%) this indicates social living in the semi urban area .Being semi urban area significant difference observed between educations of parents. Illiteracy among mothers was(10.31%) and below 10th std.was (38.72%) compared to fathers where illiteracy was (4.46%) and below 10th std. was (30.64%).Similarly higher education (graduation /Post graduation) among mothers was (20.89%) whereas among fathers was (33.15%). Thus this indicates higher level of illiteracy and lower level of higher education i.e. Degree and Post graduate education among females compared to males. This shows poor education trend among females. In study population (46.77%) had at least one sibling, (5.6%) had no sibling. This indicates trend towards having lesser no of children in parents of study population. When the semi structured questionnaire was analyzed following results are found.

1. (83.01%) of adolescent girls knew about change occurring in height and weight whereas 16.99% girls were ignorant about it.

2. 79.67 % of adolescent girls knew about change occurring in the size of breast and 20.33% girls were ignorant about it.

3. 83.84% of adolescent girls knew about development of hair in private parts and 16.16% of girls did not know about it.

4. Only 66.02% girls knew about changes occurring in private parts like darkening of skin, change in structure etc. whereas 33.98% of girls were ignorant about it.

5. It is found that nearly 56.03% of girls achieved their menarche between the age of 11years to 13 years. Most common age of menarche was found to be 13 years.

6. 85.79% girls knew about the hygienic practices during the menstrual cycle whereas 14.21% girls not had any knowledge about it .

7. In this study it is found that the source of information about the adolescent changes in adolescent girls was mainly mother 57.15% which was followed by school lectures and teachers 20.58% .Other sources of information like other relative and grandmother 6.87% ,TV ,movies, books etc 6.73%.

8. 66.30% girls felt that their confidence level has changed and they are feeling less confident than earlier.

9. When asked about feeling of insecurity and anxiety about adolescent changes 32.59% girls felt insecure and anxious of some occasions where as 32.87% girls felt anxious and insecure during menstrual cycle. This is again a significant finding.

10. In this study it is found that a large number of girls from study population i.e. 57.00% girls do not prefer to talk to anyone about their insecurity and anxiety feeling.28.5% talk to their mothers rest of them talk to their friends or relatives like sister and grandmother.

Thus these results have shown that the knowledge about the adolescent changes though shows improvement in overall percentage of adolescent girls yet there are some areas where more work and attention is needed to be given.

DISCUSSION

This study has shown some interesting findings few of which are consistent with the previous studies conducted

in the same area. This study has shown that Illiteracy among mothers was (10.31%) and below 10th std. was (38.72%) which indicates lower level of education in females leading to limitation in providing education about adolescent changes to their daughters. This finding relates to a meta analysis of studies conducted in Lower middle income countries which found that the information about the adolescent changes is primarily obtained from mothers who may not be necessarily well informed to teach the adolescent girl about the changes.⁹ This stresses need for education among girls. Most of the girls(83.01%) knew about changes in height and weight but still 16.99% girls were ignorant about it. This finding is consistent with the study conducted by Jain *et al* 2013 in which they found (85%) adolescents could narrate at least one physical change.¹² In this study it is found that 79.70% girls knew about change occurring in the size of breast and 83.84% girls knew about development of hair in private parts. Majority of girls knew about both these changes. These results were better than result from Jain *et al*¹² study which found that 59.7% and 33.8% of the adolescent girls were aware of the breast enlargement and growth of axillary/pubic hair respectively that accompanied puberty.¹² This indicates that there is improvement in knowledge level in young girls. This study also found that 33.98% girls were ignorant about the changes occurring in a private part like darkening of skin, change in texture etc. which is nearly one third of the population which again shows that lack of knowledge about genital and sexual changes. This is in consistence with Jain *et al* study.¹² 85.79% girls knew about the hygienic practices during the menstrual cycle and were aware of menstrual cycle. This in contrast to study by Ud giri r *et al* 2010¹⁰ where 81.58% were unaware of it. Source of information regarding knowledge of adolescent changes was mainly obtained from mothers 57.15% this finding again is consistent with previous study by Chandra Mouli V *et al*⁹ where mothers were the major source of information. It was surprising to see that school lectures and teachers contributed for 20.58% girls obtaining knowledge from there. This finding was different from previous studies. 66.30% girls felt that their confidence level changed and they felt less confident than earlier after the onset of adolescent changes which indicates the insecurity feeling among them about these changes. When asked about feeling of anxiety and insecurity 32.59% girls felt insecure and anxious on some occasions whereas 32.87% girls felt insecure during menstrual cycle. This finding is consistent with study by Alam M U *et al* 2017¹³ among Bangladeshi adolescent girls where 32% girls felt insecure to go to school during menstrual cycle. Another important finding from this study was around 57.00% girls do not prefer to talk or

share their insecurities with anyone which is again a risk factor for various stress associated issues. Nearly 28.5% talk with their mothers. This alerts the need for the education in adolescent girls about the knowledge of adolescent changes and importance of sharing their stressors with someone. In past no other study has looked in to this aspect. Thus the current study has found that there is still need for imparting education about adolescent changes into school curriculum or creating Adolescent education cells in the schools and junior colleges. There is need for parental training of young children about how they can effectively impart the adolescent and sexual education at home environment.

CONCLUSION

1. Majority of adolescent girls have knowledge about the physical and sexual changes occurring during adolescents.
2. Mothers and school lectures, teachers were the major source of information.
3. One third of girls felt insecure and anxious sometimes and another one third felt insecure and anxious during menstrual phase.
4. More than half of the girls do not share their insecurities with anyone.
5. Schools can play major part in imparting knowledge among adolescent girls about changes in adolescent age.
6. There is a need for parental and child sexual education in society.

SUMMARY

In this study 359 adolescent girls from age of 13 years to 18 years participated they were given a semi structured questionnaire to assess the knowledge about various aspect of adolescent changes. Sample collection was done by purposive sampling method. Data collection was done by giving participants the questionnaire and demography detail form. Analysis of study has shown need for more intense education about the adolescent changes in these girls. Also need for improvement of school based program for sexual knowledge related education in schools.

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