

Level of Understanding, Information Needs and Practices of Adolescent Girls about Selected Puberty Related Health and Nutrition Problems

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Abstract

Introduction: Adolescents comprise one-fifth of the Indian population.¹ Adolescent girls represent one of the most vulnerable sections of the society. Their felt needs pertaining to routine health problems remain unaddressed.

Objective: To ascertain the level of understanding, information needs and practices of rural and urban adolescent girls of Chandigarh about puberty-related health and nutrition problems.

Methods: It was a cross-sectional study with a sample size of 120 girls (30 from each of the two schools of urban area and two schools of rural area, U.T. Chandigarh). Multi-stage sampling was done. Data was collected by means of a self-administered, structured questionnaire constituting elements on level of information regarding puberty, nutrition and related health problems, practices and needs. Data analysis was done through Epidata and SPSS statistical software.

Results: Many respondents (43.3%) reported menstruation as the most disturbing factor followed by changes in body shape (e.g. appearance of pubic hair) and size. Some (28.3% rural and 40% urban girls) reported the problem of acne while fatty body was major problem for rural girls. Excess facial hair growth was also reported by many (21.7% urban and 6.7% rural) girls. More than 70% girls experienced pain during menstruation. Hygienic practices including usage and disposal of sanitary pads were found to be adequate.

Conclusion: Hygienic practices and usage of sanitary pads was found to be adequate but the girls got disturbed due to various puberty-related health problems. There were many lifestyle issues that existed among the respondents such as lack of physical activity, obesity, acne, facial hair growth, dysmenorrhea, irregular menses, etc. Also some girls were suffering from low self-esteem due to the above cited problems.

Recommendation: A lot has been done on menstruation, its awareness and hygiene. Now, the time is to focus on associated issues and problems.

Keywords: Adolescent health, Puberty, Menstruation, Changing body shape, Personal hygiene, Nutrition

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Introduction

“Our right of interference is limited entirely to giving education. Women must be put in a position to solve their own problems in their own way. No one can or ought to do this for them. And our Indian women are capable of doing it as any in the world.”

– Swami Vivekananda

Adolescents comprise one-fifth of the Indian population.¹ It is increasingly felt that investing in this group, especially adolescent girls, is going to have rich dividend for the future health. Adolescent girls represent one of the most vulnerable sections of Indian society. Their felt needs pertaining to routine health problems remain unaddressed.

Adolescence is considered to be the period between ages 10 and 19 years. It is a period of maturity, a point of physical, emotional, social and psychological changes. These changes associated with puberty manifest themselves in often complex and bizarre ways to which girls show different reactions. Lack of timely information results in inappropriate practices and adoption of unhealthy choices by the adolescents.²

Nowadays, adolescent girls are facing many health problems which can be related to their lifestyle, viz., obesity, polycystic ovarian disease, menstrual irregularities, depression, etc. The probability of emergence of these problems can be minimized by adopting a health-promotion approach.

“Healthy girls are central to sustainable development” according to WHO. This development can be achieved by making sure equitable access to youth-friendly health and nutrition information and services.³ The major information needs of the adolescent girls are related to four areas, namely, menstruation, changing body shape, personal hygiene, and nutrition.

Menstruation is considered as the milestone of puberty. The most troublesome aspect for girls is its unpredictability (when it will start? Where it will start? How it will be managed? etc.). The other problems regarding menstruation are dysmenorrhea, regularity/irregularity of periods, premenstrual syndrome, PCOD (polycystic ovarian disorder), obesity, acne, various myths, misconceptions, etc.

They acquire changes in their body shape and size such as hips broaden, breasts develop, pubic hair start appearing, etc. Some girls get disturbed with these changes. They start comparing themselves with each other or with film actresses. This can affect their psychological development.⁴

Maintenance of personal hygiene at this phase of development is very important.⁵ This helps to prevent the development and spread of infections. The hygiene

practices include bathing at least once a day, wearing clean and regularly changed undergarments and using proper absorbent materials like pads and tampons during menstruation, which are to be changed regularly.

Adolescence is a formative stage of life where learned experiences remain for lifetime. Adolescents have more easy access to health and nutrition information through schools, recreational activities, and mass media than they have later in their lives. Rapid growth and changes during this period also heighten nutritional requirements and risks of under nutrition. So, this is the time when they need proper care.

This study aimed to explore the level of understanding of the adolescent girls about puberty-related health and nutrition problems.

Objective

To ascertain the level of understanding, information needs and practices of rural and urban adolescent girls about puberty-related health and nutrition problems.

Methodology

This study was conducted in two schools of urban area and two schools of rural area (randomly selected) of U.T. Chandigarh from Jan 2015 to May 2015. It was an observational study (cross-sectional design). Adolescent school girls from class IX and X of the selected schools were included in the study. Those who were not willing to participate in the study, were absent from school on the day of data collection, and who denied the informed consent were excluded from the study.

A sample size of 120 girls (30 from each of the four schools) was taken by simple random sampling technique. The survey was conducted through a self-administered, semi-structured questionnaire. A quiz constituting elements on level of information regarding puberty, nutrition and related health problems, practices and needs was also conducted.

Data collection was done after seeking assent from the participants and informed consent from the concerned authority of the respective schools. Data analysis was done through Epidata and SPSS statistical software.

Results

The mean age of respondents surveyed was 14.26±0.76 years. Major changes reported by the respondents with respect to their body at this age were onset of menstruation with mean inter-menstrual duration ranging from 15 to 45 days, appearance of pubic hair and changes in body shape and size. Table 1 shows age of onset of various puberty-related changes and how much these changes affect the girls.

Table 1. Age at Menarche, Appearance of Pubic Hair and Changes in Body Shape and Size (n=60 in Each Group)

Various Puberty Related Changes	Mean Age at Onset (Years)		No. of Girls Reporting Being Disturbed due to Changes (%)		No. of Girls for Whom This Is the Most Disturbing Factor (%)	
	Urban	Rural	Urban	Rural	Urban	Rural
Menarche	12.52	12.82	10 (16.7%)	13 (21.7%)	26 (43.3%)	26 (43.3%)
Appearance of pubic hair	11.68	12.48	9 (15%)	15 (25%)	8 (13.3%)	1 (1.7%)
Changes in body shape and size	10.4	11.92	6 (10%)	10 (16.7%)	2 (3.3%)	4 (6.7%)

The most disturbing factor for both the urban and rural girls was menstruation followed by pubic hair and changes in body shape and size. Acne development also bothered 15% of the respondents and problem of body odor bothered 10% of the girls. Major source of information about puberty among the respondents was the mother for most of the girls (80.0%), followed by friends and sisters. Rural girls reported friends as the second major source of information. Majority (68.3% urban girls and 71.7% rural girls) knew about menstruation already before it started.

Half (50%) of the girls missed their menstrual periods once or more than that. Majority of the girls were neglecting and doing nothing to manage their missed periods. Majority of the urban girls felt shocked and rural girls felt 'weird'

at their first menstrual period.

Girls experienced certain special feelings during menses, e.g., 41.7% urban and 16.7% rural girls liked to drink ginger tea during menses; 23.3% rural and 13.3% urban girls had craving for cold drink and junk food during menses. More than half of the girls wanted to sleep and take rest in a closed room during these days.

Sanitary napkins/pads were the most frequently used absorbent material by 59 urban girls and 58 rural girls. Nearly half of the girls, i.e., 26 (43.3%) urban girls and 30 (50.0%) rural girls changed their pads three times a day. Nearly one-third of girls changed it twice a day in both the areas.

Table 2. Main Disposal Site and Mode of Wrapping of Used Napkins (n=60 in Each Group)

Sanitary Pad Disposal Site	Urban		Rural	
	Number	%	Number	%
House dustbin	60	100	57	95
Latrine	0	0	1	1.7
Buried under the mud	0	0	2	3.3
Chi-square test (p-value)	6.5×10 ^{-8*}		6.5×10 ^{-8*}	
Mode of wrapping the pads while disposal	Number	%	Number	%
Paper	45	75	39	65
Polythene bag	4	6.7	16	26.7
Wrapper of new pad	11	18.3	4	6.7
No wrapper	0	0	1	1.7
Chi-square test (p-value)	4.2×10 ^{-9*}		4.2×10 ^{-9*}	

*statistically significant p-value <0.05

Major disposal site of used sanitary pads was house dustbin and mode of wrapping was paper. Most (80–83%) girls carried extra pads with them. Only 8.3% urban and 16.7% rural girls reported difficulty in changing pads at school.

All the 4 schools had a separate washroom for girls. The condition of washrooms was good with the facility of dustbin, washbasins, flushes, etc. There was no soap in any washroom.

More of urban girls took bath two times a day as compared to the rural girls. More than 92% girls washed their genitalia every time when they changed pads. On routine days, more urban girls (71.7%) washed their genitalia every time while going to toilet as compared to rural girls (56.7%).

Majority (70% urban and 73.3% rural girls) used soap for washing genitalia.

Majority (43 urban and 45 rural) girls experienced pain during menstruation. School absenteeism was noted among only 11 urban girls and 15 rural girls. Some (23 urban and 13 rural) girls tolerated their menstrual pain as such. The practice adopted to manage menstrual pain mainly was use of hot water bottle by 25% urban girls and 33.3% rural girls. The main reason for tolerating as such the pain for both urban as well as rural girls was influence of mother/grandmother, followed by their shyness to discuss it with someone.

Only 17 (28.3%) urban girls and 16 (26.7%) rural girls

practiced exercise daily like dancing, jogging, jumping, walking, etc. (for 30–60 minutes). Urban girls preferred walking daily while the rural girls preferred running daily.

Impact on self-image had been the major issue among

some of the girls. Majority of the girls perceived their body appearance as normal. Some girls (more rural girls) felt shy about these changes (7.5%) and perceived these changes not as good as other girls (12.5%).

Table 3. Various Problems Faced by Girls in Their Appearance

Problems Faced by Girls	Urban (n=60)		Rural (n=60)	
	Number	%	Number	%
Excess facial hair growth	13	21.7	4	6.7
Acne	24	40	17	28.3
Fatty body	20	33.3	22	36.7
Chi-square test (p-value)	7.6×10 ^{-8*}		1.79×10 ^{-6*}	

*statistically significant p-value <0.05

Acne was the major problem faced by urban girls while fatty body was the major problem for rural girls. Excess facial hair growth problem was more prevalent in urban area. Majority (65% urban and 61.7% rural) girls reported that obesity did not retard the growth. Only 12 urban and 6 rural girls tried to control their fat through dieting, exercise, dancing, etc. Majority of the girls, especially urban girls, did not do anything to control acne. Majority of the girls perceived all the puberty-related changes as positive changes in their life.

Discussion

Adolescence along with all the changes is not a new phenomenon. Earlier also girls had to face all this. However, now the context and circumstances have changed. Earlier the girls were usually restricted to their homes doing household chores puberty onwards. But now the era has changed. They are getting involved in various types of outdoor jobs. They go to schools and then colleges. For all these career-related activities, changes at puberty might disturb a girl and hamper all her endeavors.

The major changes and health problems which a girl deals with at puberty are menstruation, changing body shape, appearance of pubic hair, body odor, weight fluctuations, etc. They usually have many doubts and issues in their minds about such changes. But due to the conservative nature of our society, these issues remain unaddressed and result in adoption of unhealthy choices by them.

In this study, the respondents quoted menstruation as the most disturbing factor. Also majority of the urban girls felt shocked and majority of the rural girls felt weird at the first menstrual period. This could be because of its unpredictability, irregularity, monthly occurrence, etc. Initially girls do not know how to manage their periods. This raises conflicts and disturbance in their minds. Appearance of pubic hair and changes in body shape and size also compound their disturbance. Girls are usually conscious and get disturbed when they notice even small amount of change in their body. This fact is supported by increase

in the number of girls who diet and join gym to control their weight.

Our study showed that majority of the urban as well as rural girls knew about menstruation already before it started. Their major source of information was mother, followed by friends and sisters. Thakre et al.⁶ showed only 36.95% of the participants were aware of menstruation before menarche and mothers were the first informants for more than 70% girls. This finding supports the need of involvement of mothers in health education programs.

Mean inter-menstrual duration was more in urban girls than in rural girls. This could be due to the difference in lifestyle and dietary habits. Half (50%) of the girls missed their periods after menarche once or more. Actually, it is well known that at menarche, it takes a while for menses duration and gap to settle down. It may even take months or years to become regular. So, it is not a thing to get worried about. The only thing to do is to take appropriate diet and adopt a healthy lifestyle.

Many urban girls liked to drink ginger tea during menses. The probable reason could be they might get some sort of relief from pain and discomfort associated with menstruation. This fact is supported by another study by Gupta,⁷ where 25% girls reported ginger intake because it gave them a sense of relief. Rest of the girls would like to take other food stuffs like chocolates, ice-cream, junk food, etc. Majority of the respondents wanted to sleep or to take rest in a closed room during menses. This shows that they feel more comfortable in isolation. This is not a wrong thing. A girl should be allowed to do whatever she wants during menses. This could balance their moods.

In the present study, almost all the girls used sanitary pads as the absorbent material whereas in the study by Thakre et al.,⁶ majority of the rural girls were using cloth menstrual pads as the main absorbent material. Nearly half of the girls changed their pads three times a day and nearly one-third changed it twice a day in both the areas. They were not changing pads frequently either because of economic

constraints or lack of knowledge. Almost all girls disposed of their used sanitary pads in the house dustbin. In a similar study by Thakre et al.,⁶ the common method of disposal of pads was wrapping it in paper and either disposing it in a place meant for solid waste disposal or burning it. In our study, no girl used to burn their used pads. This shows that mothers were a great teacher and taught them how to manage their periods and stay hygienic up to her own level of understanding. The results showed paper as the main mode of wrapping the used pads. They did not know about the utility of wrapper of new pad for the purpose of wrapping and then disposal.

Most of the girls used to carry extra pads with them and all the four schools had a separate washroom for girls. So, the majority of the girls did not report any difficulty in changing pads at school. The only negative point was lack of soap in each washroom. There should be availability of soap in each and every washroom, so that girls could adopt healthy practice of adequate hand washing even in school.

The hygiene-related practices during menstruation and even on routine days are of considerable importance. The results of our study showed that more number of urban girls take bath two times a day as compared to the rural girls. Almost all the girls washed their genitalia every time on changing the pad. More number of urban girls washed their genitalia every time while going to toilet. This shows that urban girls were more aware about the maintenance of hygiene and its importance.

Dysmenorrhea, i.e., pain during menstruation is a very common thing for more than 90% girls as reported by the study conducted by Chaudhuri et al.⁸ However, very few seek treatment. The result of our study also showed that the majority of the girls tolerated their pain as such. The reason quoted by many of them was either the influence of mother/grandmother, or shyness to discuss this issue with anyone. In a similar study by Gupta,⁷ only 13–14% participants ever consulted a physician for their pain. In our Indian society, this has become a trend that mothers usually tell their daughters to tolerate the pain by saying “*yeh to sabko hota hai, hume bhi hota hai, apne aap theek ho jayega*”. (It happens to every girl; we also have it. It will get well on its own). Nearly one-third girls were using hot water bottle and quoted that they got enough relief by using it. The use of hot water bottle had been reported by other studies also such as study by Gupta⁷ (reported by 37–53% participants), Chaudhuri⁸ (37.33% respondents) and Sharma⁹ (15.4% participants). The girls should know that dysmenorrhea is curable so that the wrong message does not disseminate to the next generation.

The severity of many problems like dysmenorrhea, PCOD, etc., automatically lessens if we regularly do some exercise. In our study, only 17 urban girls and 16 rural girls

reported practicing exercise daily like dancing, jogging, stretching, walking, etc., and they were doing it for nearly 30–40 minutes. This fact is supported by another study in Chandigarh and Mohali,⁷ where only 4.6% girls exercised daily. The girls should know the importance of physical activity. It solves many of their problems, even excessive weight gain. In addition to it, the body gets detoxified. There should be incorporation of regular physical exercise in the time table of each and every school.

In the present study, majority of the girls were satisfied with their bodily appearance. But there were some girls who felt shy about these changes (7.5% girls) and who considered themselves not as good as other girls (12.5%). These feelings were more prevalent in rural area – maybe because of their less interaction with modern lifestyle or they feel neglected. Motivation of these girls is necessary.

Personal appearance matters the most for today's girls. In our study, the girls quoted three main problems related to personal appearance – excess facial hair growth, acne and fatty body. More number of urban girls reported these problems as compared to the rural girls. But they were not practicing any remedy to control these. They should be made aware of the right practices to control these problems so that they do not adopt unhealthy and bad practices.

Majority of the girls reported that obesity did not retard the growth. They were not being able to link obesity with growth. They should be made aware that obesity does retard the growth and it should be controlled. Majority of the girls perceived all the above changes as positive changes in their life. Thus, we should take this positive attitude as an opportunity to enhance their life skills and knowledge.

Conflict of Interest: None

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