AWARENESS OF REPRODUCTIVE HEALTH IN ADOLESCENT GIRLS: A COMPARATIVE STUDY BETWEEN RURAL AND URBAN BACKGROUND

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ABSTRACT

BACKGROUND

Reproductive health is an essential part of the life of each and every individual. Our adolescents particularly rural girls have poor reproductive health awareness, which leads them easy prey to disasters i.e. teenage pregnancy and STDs.

OBJECTIVES

To evaluate and compare the reproductive health awareness of rural and urban adolescent school girls.

METHODS

Total 1400 adolescent school girls (700 from rural and 700 urban girls) studying in 6th to 12th class were included in the study. Awareness was assessed by a questionnaire.

RESULTS

Only a few girls were aware about age of onset of adolescence. Term puberty was heard by 444 urban and 306 rural girls. Awareness about changes of adolescence was more for urban girls. Awareness regarding menstruation as activation of reproductive system was more in urban girls. About half girls of both background were aware regarding normal duration of menses. Only a few girls were aware about part of menstruation during which a woman has greatest chances of getting pregnant. Awareness regarding contraception and symptoms of sexual diseases was more in urban girls. Awareness regarding modes of spread of HIV was more in rural girls.

CONCLUSION

Awareness regarding contraceptive, menstruation, and changes of adolescence is very poor, so special attention is required for these aspects such as including these topics in educational system and there is also need to maintain and increase awareness regarding HIV/AIDS. The health system of India should bridge this huge gap of unmet need of adolescent reproductive health.

KEYWORDS

Adolescent girls, Awareness, Reproductive health, Rural, Urban, Questionnaire.

HOW TO CITE THIS ARTICLE: Meena G, Kaur AP, Meena VK, et al. Awareness of reproductive health in adolescent girls: A comparative study between rural and urban background. J. Evid. Based Med. Healthc. 2016; 3(63), 3408-3413.
DOI: 10.18410/jebmh/2016/734

INTRODUCTION: Adolescents (aged 10-19 years) form one-fifth of the world's population and are growing in number. Over one billion adolescents in the world and 331 million in India comprise 30 per cent of the total population.[1,2]

Majority of adolescents still does not have access to information and education on sexuality, reproduction, reproductive health and rights, nor do they have access to preventive and curative services.[3] The concern about Adolescent Sexual and Reproductive Health (ASRH) has grown due to unprecedented increasing rates of sexual activity, early pregnancies, and Sexually Transmitted Infections (STI) including Human Immune Deficiency Virus (HIV) among adolescents.[4,5]

Studies have shown that working with adolescents on issues related to sexual and reproductive health decreases the fertility rate, which is central to population stabilisation, maternal mortality, and the prevalence of HIV/AIDS and STI.[6]

This study was done to compare awareness in rural and urban adolescent girls regarding reproductive health to determine the requirements of various factors to improve reproductive health in adolescent girls and to furnish them with information regarding it.

Financial or Other, Competing Interest: None.
Submission 04-07-2016, Peer Review 14-07-2016,
Acceptance 22-07-2016, Published 05-08-2016.
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DOI: 10.18410/jebmh/2016/734

MATERIALS AND METHODS: The present study was carried out in the Department of Obstetrics and Gynaecology, Government Medical College, Amritsar for a period of one and a half year from March 2013 to September 2014. Total 1400 (700 girls from rural schools and 700 girls from urban schools) subjects were studied.

A questionnaire was prepared in regional language, which was pretested and pre-designed and was made available to all the subjects for 30 minutes.

The questionnaire contained various questions regarding physical changes and secondary sexual development, menstruation, STDs, AIDS, and family welfare methods and health status and source of information of their knowledge. All girls and authorities were informed about the nature of study and their consent was taken to participate in this study. All data were entered into proforma. The statistical analysis was performed by an independent statistician using the statistical package for the social sciences (SPSS version 17). The chosen level of significance was p value (p) <0.05. Chi-square values (x^2) were also calculated.

RESULTS AND DISCUSSION: Only 37(5.3%) urban and 9(1.3%) rural girls were aware about age of onset of adolescence (p = 0.001; x^2 = 17.623). Four hundred forty four (63.4%) urban and 306 (43.7%) rural girls had heard about term puberty (p = 0.001; x^2 = 54.69). Two hundred thirty (58.1%) urban and 106 (34.6%) rural girls were aware about age of onset of puberty (p = 0.001; x^2 = 21.574).

Awareness about changes of adolescence i.e. breast development, onset of menstruation, occurrence of acne, growth of pubic hair, and rapid increase in height was 362(51.7%), 422(60.3%), 377(53.9%), 396(56.6%), and 332(47.4%) respectively among urban girls. Similarly, awareness about these changes among rural girls was 247(35.3%), 386(55.1%), 405(57.9%), 426(60.9%), and 456(65.1%) respectively showing that awareness was more in urban girls (p values were given in table 1). Jain RB[7] reports that 66.3% girls were aware of at least one change of adolescence. Nair[8] stated that almost all girls in his study were aware of the weight and height gain during puberty; 59.7% and 33.8% of adolescent girls were aware of breast enlargement and axillary/pubic hair respectively. Two third of girls had knowledge of menstruation. The above findings were inconsistent with our study.

Four hundred thirty three (61.9%) urban and 400 (57.1%) rural girls considered menstruation as a sign of activation of reproductive system (p = 0.072; x^2 = 3.228). Comparing results of rural and urban girls, it is clear that there is slight more awareness in urban girls. Our results were better than the study done in Rajasthan[9] where 70% of the adolescent girls believed that menstruation is not a normal process. Shubha Dube[10] reported awareness in rural and urban girls was more or less equal. But, there was more awareness in rural girls of our study as compared to that of Shubha Dube[10] where only 40% rural girls were aware that menstruation was natural phenomenon.[11] According to Das Gupta[11] 86.25% girls were aware that menses is physiological process.

In our study, four hundred six (58%) urban and 396 (56.6%) rural girls were aware about duration and interval of menstruation (p = 0.589; x^2 = 0.292). Nagar[12] stated that about 60 percent of adolescent girls were aware of menstruation that it is a monthly process. Shubha Dube[10] reports 11% urban and 28% rural girls were not aware about the gap of periodic menstruation. Kamalam[13] concluded that majority of girls were unaware of the normal duration of bleeding during menstruation.

Five hundred twenty eight (92.3%) urban and 381 (72%) rural girls used sanitary napkins during menses (p = 0.001; x^2 = 78.546). Nagar[12] shows that total of 68% girls used sanitary napkins. In rural, 37.8% girls use cloth while in urban area it was 14% (p = 0.001; x^2 = 82.236). As per Khanna A[9], three fourth of girls use old cloth during periods and one fifth 19.5% reported using readymade sanitary napkin. The practice of using cloth was higher in rural girls (89.0%) and out of school adolescent girls (88.1%), and large proportions of girls reused the old cloth during subsequent periods. Use of cloth was more common in study of KA Narayan[14] (82% urban and 72.2% rural) than our study (14% urban and 37.8% rural).[15] Similar to Narayan,[14] Ghattargi[16] concluded that majority of urban and rural girls preferred cloth pieces to the sanitary pad contrary to our study. Results of Thakre[15] also mismatches with our study as only 49.35% of adolescents in his study use sanitary pads and 45.74% girls used old clothes. In urban girls, 672 (95.1%) change their sanitary material twice while in rural area 596 (80.3%) change their sanitary material twice or more in a day (p = 0.001; x^2 = 65.724). Nagar[12] stated in her study that 76% thought that napkin must be changed more than twice a day for better perineal hygiene, results were consistent with our study.

Fifteen (2.1%) rural and 16 (2.3%) urban girls were aware about the part of monthly cycle during which a woman has greatest chances of getting pregnant (p = 0.856; x^2 = 0.33). The awareness regarding it was lower in our study than NFHS survey[17] where half of teenage girls and 2/3 of the women were aware about it; however, only 5% to 14% in these two groups respectively had knowledge that the woman was fertile during middle of cycle.

Awareness about ideal age of marriage was present in 658 (94%) rural girls, which was higher than that of urban girls, i.e. 449 (64.1%) (p = 0.001; x^2 = 188.541). The difference was statistically significant. As compared to the study conducted at Ludhiana[18] in urban school girls 70% girls knew the ideal age of marriage. Benjamin[18] stated that 81.3% girls were aware about legal age of marriage.

In our study, 280 (40%) urban and 128 (18.3%) rural girls were aware about contraception (p = 0.001; x^2 = 79.918). Contrary to our study, Mittal[19] in his study stated that at least two or more contraception methods were known to 80.7% girls.

Awareness about different modes of contraception (table 2) shows that awareness regarding modes of contraception was more in urban girls than those of rural girls. Our study concluded that 289 (70.8%) girls were aware about oral contraceptive pills, contrary to the finding of

NFHS[17] where knowledge regarding condom was very high >90%. Awareness regarding oral pills was more in the study done in Ludhiana[18] (78.5%) and less in the Tiwari's study[20] (60.6%) than in our study. Similarly awareness regarding condoms in our study was higher than the study of Ludhiana[18] (47.3%) and lower than Tiwari's[20] study (58.1%). Knowledge regarding female sterilisation, male sterilisation and emergency contraception was around 30% to 35%. As per NFHS[17] awareness about female sterilisation was well spread among subjects than that of our study. Awareness about Copper-T, tubectomy, and vasectomy in Tiwari's[20] study (41-48%) was more than our study.

In our study awareness about emergency contraception in urban girls was higher than it in rural girls ($p = 0.002$; $x^2 = 9.356$). Study done by V. Bhatia[21] showed this awareness as 39.7% and 54.7% in rural and urban girls respectively matches with results of our study.

One thousand two hundred ten (86.4%) girls of our study had heard about HIV, which was similar to study done by AK Sharma[22] where 86% had heard about HIV. Awareness in rural girls was 631 (90.1%) more than in urban girls 579 (82.7%) ($p = 0.001$; $x^2 = 16.466$). According to NFHS[17] survey, two out of three young women (15-24 yrs.) had heard of HIV/AIDS, which was lower than in our study. 90% adolescent girls were aware about AIDS as per Jain NP[1] showing more awareness as compared to our study while Basir G et al[23] reports only 24% girls had heard about HIV/AIDS.

Majority of 940 (77.7%) girls got information about HIV/AIDS from media/teacher. A.K. Sharma[22] reports media was source of information in 66.9% adolescent girls (43.9% newspaper and magazine and 23% television). Media was source of information regarding HIV/AIDS in 529 (83.8%) rural girls and 411 (71%) urban girls shows important role of media/teacher in rural girls ($p = 0.0.001$; $x^2 = 28.765$). Overall, mothers were poor source of information regarding HIV/AIDS in both rural and urban girls as they themselves had very poor knowledge or were uncomfortable in discussing such topics. Role of mother was more in urban 76 (13.1%) as compared to rural girls 41(6.5%) ($p = 0.001$; $x^2 = 15.188$). Basir G et al[23] reports chief source of information about HIV/AIDS was media both electronic and print in 73.34%.

Our results regarding modes of transmission were given in table 3. Our results were contrary to Basir G et al[23] where only 20.5% girls were aware about sexual route of transmission of HIV. Transmission of HIV for which awareness was maximum according to our study was blood transfusion while in the study of Muzammil[24] it was infected syringes. Awareness about transmission through contaminated needles and fetomaternal transmission was higher in our study than study of Basir G et al[23] where contaminated needles and fetomaternal transmission was known to 23% and 3.5%, respectively. Awareness in present study was higher than study of A.K. Sharma[22] where 35%, 20%, and 20% girls were aware of sexual and injectable and blood transfusion as mode of transmission of HIV out of those girls who were aware of HIV. Similarly, in his study, 37% to 46% girls knew that mosquito bite, sharing food with HIV infected person, living with HIV person, shaking hand with HIV person do not spread of HIV.[22] On comparing with NFHS,[17] it was found that awareness was lower in NFHS[17] survey where comprehensive knowledge regarding HIV was very low, i.e. 20%. Basir G et al[23] reports that most of the adolescents believe that HIV/AIDS could spread through shaking hand (82%), eating with infected/affected person, or sharing utensils (64%). Our rural and urban adolescent girls clearly showed that awareness regarding mode of HIV transmission was more in rural girls (p value and x^2 values were given in table 3).

Awareness about modes of prevention of HIV was from 41% to 51% in urban girls and from 35% to 53.9 in rural girls (Table 4).

Four hundred thirteen (71.3%) urban and 477 (75.6%) rural girls were aware that a healthy-looking person maybe infected with HIV ($p = 0.093$; $x^2 = 2.823$) and 317 (54.7%) urban and 315 (49.9%) rural girls knew that HIV infected person can continue his job ($p = 0.093$; $x^2 = 2.822$).

Awareness regarding symptoms of STDs was poor between 15.6% to 30.4% in rural girls and 3.7% to 20.7% in urban girls. Most known symptom of STDs was unhealthy and excessive discharge from vagina. Symptoms with p and x^2 values were given in table 5.

In our study, 609 (87%) urban and 597 (85.3%) rural girls want to consult doctor if they had sexual problem ($p = 0.353$; $x^2 = 0.862$). Two hundred ninety three (41.9%) urban and 267 (38.1%) rural girls wanted to consult mother regarding it ($p = 0.156$; $x^2 = 2.012$).

Awareness regarding basic health parameters such as haemoglobin, blood group was negligible, but was more in urban girls than those of rural girls. Awareness regarding height and weight was more or less equal in both groups.

CONCLUSION: Adolescents are the future citizens of our country. The reproductive health awareness and the behaviour of the teenagers are likely to have an important impact on the overall reproductive health and the social outcome. Awareness regarding various aspects of reproductive health varies from each other. Awareness regarding contraceptive, menstruation, and changes of adolescence is very poor so special attention is required for these aspects such as including these topics in educational system and there is also need to maintain and increase awareness regarding HIV/AIDS. The health system of India should bridge this huge gap of unmet need of adolescent reproductive health.

Changes During Adolescence	Urban		Rural		Total		p value	X^2
	No. of Subjects	% age	No. of Subjects	% age	No. of Subjects	% age		
Breast development	362	51.7	247	35.3	609	43.5	0.001*	39.435
Onset of menstruation	422	60.3	386	55.1	808	57.7	0.051	3.739
Occurrence of acne	377	53.9	405	57.9	782	55.9	0.132	2.271
Growth of pubic hair	396	56.6	426	60.9	822	58.7	0.103	2.625
Rapid increase in height	332	47.4	456	65.1	788	56.3	0.001*	44.637

Table 1: Distribution of Adolescent Girls on the Basis of Their Knowledge for Changes Occurring During Adolescence (Multiple Responses were Permitted)

*Statistically significant were only for two parameters i.e. breast development and rapid increase in height.

Methods	Urban		Rural		Total		p value	X^2
	No. of Subjects	% age	No. of Subjects	% age	No. of Subjects	% age		
Oral pills	204	72.8	85	66.4	289	70.8	0.001*	81.442
Cu T	75	26.8	19	14.8	94	23	0.008	7.065
Condom	203	72.5	23	18	226	55.4	0.001*	105.716
Male sterilisation	99	35.4	36	28.1	135	33.1	0.150	2.075
Female sterilisation	109	38.9	40	31.4	149	36.5	0.135	2.234
Safe period	60	21.4	1	0.8	61	15	0.001*	29.451
Emergency contraception	104	37.1	28	21.9	132	32.4	0.002*	9.356

Table 2: Distribution of Adolescent Girls on the Basis of Their Knowledge Regarding the Various Methods to Avoid Pregnancy (Multiple Options Permitted)

* Shows statistically significant data.

† Percentage given was out of the total number of subjects who were aware of term contraception.

Correct Responses about Source of Infection	Urban		Rural		Total		p value	X^2
	No. of Subjects	% age	No. of Subjects	% age	No. of Subjects	% age		
Sexual intercourse	258	44.6	239	37.9	497	41.1	0.018*	5.572
Contaminated needle	308	53.2	408	64.7	716	59.2	0.001*	16.426
Blood transfusion	351	60.6	428	67.8	779	64.4	0.009*	6.839
Mother to child	314	54.2	311	49.3	625	51.7	0.086	2.956
Mosquito bite	196	33.9	257	40.7	453	37.4	0.014*	6.098
Sharing food with HIV infected person	196	33.9	342	54.2	538	44.5	0.001*	50.628
Living with HIV person	209	36.1	349	55.3	558	46.1	0.001*	44.851
Shaking hand with HIV person	201	34.7	351	55.6	552	45.6	0.001*	57.220

Table 3: Distribution of Adolescent Girls on the Basis of Their Knowledge About Source of Infection of HIV. (Multiple Responses were Permitted)

* Shows statistically significant data.

† Percentage given was out of the total number of subjects who were aware of term HIV/AIDS.

How to Prevent HIV/AIDS	Urban		Rural		Total		P value	Chi square
	No. of Subjects	% age	No. of Subjects	% age	No. of Subjects	% age		
Avoid unsafe sex	297	51.3	340	53.9	637	52.6	0.368	.811
Faithful to partner	238	41.1	336	53.2	574	47.4	0.001*	17.857
Avoid drug addiction	295	50.9	373	59.1	668	55.2	0.004	8.135
Avoid commercial sex workers	284	49.1	226	35.8	510	42.1	0.001*	21.687

Table 4: Distribution of Adolescent Girls on the Basis of Their Knowledge About Prevention of HIV. (Multiple Responses were Permitted)

* Shows statistically significant data.

† Percentage given was out of the total number of subjects who were aware of term HIV/AIDS.

Symptoms	Urban		Rural		Total		p value	X^2
	No. of Subjects	% age	No. of Subjects	% age	No. of Subjects	% age		
Unhealthy and excessive discharge from vagina	213	30.4	145	20.7	358	25.6	0.001	17.354
Itching over vagina	128	18.3	123	17.6	251	17.9	0.728	.121
Burning during urination	138	19.7	67	9.6	205	14.6	0.001	28.809
Ulcers on external genitalia	109	15.6	26	3.7	135	9.6	0.001	56.475

Table 5: Distribution of Adolescent Girls on the Basis of Their Knowledge Regarding the Symptoms Suggestive of Sexually Transmitted Diseases. (Multiple Responses were Permitted)

* Shows statistically significant data.

†Percentage given was out of the total number of subjects i.e. 700 for rural and urban and 1400 for total.

Parameters	Urban		Rural		Total	
	No. of Subjects	% age	No. of Subjects	% age	No. of Subjects	% age
Haemoglobin	58	8.3	14	2	72	5.1
Blood group	134	19.1	12	1.7	146	10.4
Height	434	62.1	434	62	869	62.1
Weight	490	70	488	69.7	978	69.9

Table 6: Distribution of Adolescent Girls on the Basis of Their Awareness About Following Parameters

*Awareness regarding haemoglobin and blood group was poor as compared to that of height and weight (p value <0.05).

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