



Awareness about Reproductive Tract Infections among Rural Adolescent Girls in Haryana

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Abstract

Introduction: There are about 350 million adolescents comprising about 22% of the population in the countries of the South- East Asia Region (SEAR). Hygiene related practices of adolescent girls have health impact in terms of increased susceptibility to reproductive tract infections (RTIs) which affects productivity of young adolescents.

Objective: The study was conducted to find out the magnitude and awareness of reproductive tract infections among adolescent girls in villages under the Comprehensive Rural Health Services Project (CRHSP), Ballabgarh, Haryana.

Methodology: A community based cross sectional study was done among adolescent girls aged 14-19 years. Using simple random sampling technique, 274 girls were interviewed using semi structured interview schedule. Analysis was carried out in Stata version 11.

Results: All 274 participants had attained menarche and the mean age at attainment of menarche was 14.2 ± 1.4 years. Almost half of the participants (47.1%) were not aware about the causes of RTIs. Seventy one girls (25.9%) reported symptoms of reproductive tract infections. Also, almost half of them did not seek any treatment for RTI.

Conclusions: There is a concern that prevalence of untreated reproductive tract infections among adolescent girls is significant especially in rural India. Therefore, proper menstrual hygiene and correct perceptions and beliefs can protect the women from this suffering.

Keywords: adolescent girls, rural India, reproductive tract infections (RTI), awareness.

Introduction

Adolescence is a transitional phase of life linking childhood to adulthood during which major physical, psychological and social changes occur. According to the WHO Expert Committee, adolescence is defined as the period between 10-19 years i.e., the second decade of life.¹ One special thing about adolescents is that they are no longer children, but also not yet adults. While adolescence is generally considered as a healthy time of life, it is also a period when many behaviors that may negatively affect health both during adolescence and later in life start, like smoking, unhygienic menstrual practices etc which can result in adverse health outcomes.

There are about 350 million adolescents comprising about

22% of the population in the countries of the South- East Asia Region (SEAR).² There are more than 235 million youth in India and 225 million in China alone. By the year 2050, it is predicted that adolescent population would be 13.5% of the global population.³ Unfortunately, the unique developmental and reproductive health needs of this segment of Indian population are poorly understood and hence underserved. Although not Development Goals, adolescents are the future adults who will continue the human development achievements set for 2015 and beyond.⁴

Therefore, this stage of life cycle is critical in ensuring good health in terms of hygiene, nutrition, reproduction and continued proper wellness into future generation.

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Variable	Frequency	Percentage
Age group		
Mid adolescent (14-15 years)	124	45.2
Late adolescent (16-19 years)	150	54.8
Education		
Never attended school	3	1.1
Primary school (up to 7 th grade)	32	11.7
High school (8 th -10 th grade)	130	47.4
Higher secondary (11 th and 12 th grade)	109	39.8
Marital status		
Unmarried	257	93.8
Married	17	6.2

Table 1. Demographic characteristics of study participants (n = 274)

Onset of menstruation is one of the most important changes occurring among girls during the adolescent years. Traditional Indian society still regards menstruation as something unclean or dirty. Even though it is a physiological process, it is linked with several misconceptions and practices, which sometimes results in adverse health outcomes. The root cause is awareness. Hygiene related practices of girls during menstruation are of considerable importance, as they have health impact in

terms of increased susceptibility to reproductive tract infections (RTIs). Girls belong to a more vulnerable group, particularly in developing countries, as they are traditionally married at an early age and so exposed to greater risk of reproductive morbidity and mortality. Due to the sensitivity of the topic, little is known about adolescent girls' knowledge and attitude towards reproductive health issues. Knowing this is required for planning programs for this special group.

Variable	Frequency	Percentage
Self reported symptoms of RTI		
White discharge per vaginum	48	17.5
Genital itching	18	6.6
Burning micturition	5	1.8
No symptoms	203	74.1

Table 2. Self reported RTI symptoms by study participants (n=274)

Reproductive tract infections (RTIs) refer to three different types of infection which affect the reproductive tract. There are many reasons for RTIs, most commonly endogenous infections worldwide.⁵ In a study conducted in Bangladesh, the prevalence of endogenous infections among 320 women (age range 15.9-62.3) was reported to be 30%.⁶ Also, sexually active adolescents are particularly at risk for reproductive tract infections which are sexually transmitted. Untreated RTIs affect the quality of life and may also affect productivity of young adolescents and have a potential to lead to serious long- term consequences on reproductive health. Due to less awareness, younger adolescents are unlikely to acknowledge that they are having problems and usually find it difficult to seek help themselves. Social taboos too discourage many adolescent girls from expressing their problem and seek suitable solution. Many adolescent girls are school drop outs or married or work in vulnerable situations and are also sexually active, but unable to seek timely and effective treatment for their infections. These factors have serious social, economic and public health implications.

Millions of adolescent girls living in developing countries remain invisible in national policies and programs. As a group, however, they are often neglected by program efforts. As a result, they are less likely to be able to protect themselves from infection, or seek appropriate diagnosis and treatment.

Rationale

The objective of the study was to find out the magnitude and awareness of reproductive health issues mainly reproductive tract infections among adolescent girls in villages under the Comprehensive Rural Health Services Project (CRHSP), Ballabgarh, Haryana.

Methodology

Study design was a community based cross sectional study which was done in the villages under the Comprehensive Rural Health Services Project (CRHSP), Ballabgarh, Haryana. Study population included adolescent girls aged 14-19 years from these villages. The Comprehensive Rural Health Services Project (CRHSP), Ballabgarh, situated in the state of Haryana in Northern India, was started in 1961 by All India Institute of Medical Sciences in active collaboration with the state government of Haryana. The field practice area of the project comprises of 28 villages catering to a population of 90,240 in the year 2013. The Health Management Information System (HMIS) is a computerized management system introduced in the project in 1988 which is also a HDSS (Health Demography Surveillance System) site. Demographic data, school enrolment, number of persons in each village and data pertaining to various health services provided in the area are stored.

Every individual in the project area is assigned an identification number called the unique number. All the demographic data are entered into an electronic database and are updated on a monthly basis. In this study, all girls in the mid and late adolescent period i.e., age group 14-19 years were included. This age group was included because it was assumed that by this age most of the adolescent girls would have attained menarche, as many questions were related to menstruation. Sample size was calculated using the formula $n = \frac{4pq}{d^2}$.⁷ The sample size came to be 225 due to 10% non response rate.

Sampling Technique

The sampling universe was all adolescent girls aged 14-19 years in the villages of CRHSP enlisted in the HMIS. In order to achieve representativeness, we used simple random sampling to select 225 girls from this universe. This was done by using computer generated random number tables of 3 digit numbers. A list of 14-19 years old girls was retrieved from HMIS along with basic demographic details like house number, father's name, and caste to ease house to house visit during data collection.

Data Collection

A semi structured interview schedule was prepared for data collection which included questions related to menstruation, menstrual disorders, reproductive tract infections, health care seeking etc. Interview schedule was first prepared in English and translated into Hindi and then back translated. During data collection, ASHA's (Accredited Social Health Activist) help was taken for identifying the house number of the participants in the area. The girls selected for enrolment were approached in their homes. As it is a sensitive issue, it was ensured that girls were interviewed in a comfortable environment in their homes. A total of 274 interviews were conducted and included for analysis.

Statistical Analysis

Data was entered in Epi Info 3.1.5 and the access file was transferred into Stata file. All the analysis was carried out in Stata version 11. Results are expressed as proportions.

Ethical Issues

The protocol was cleared by AIIMS Ethics Committee to carry out the study. Written informed consent was obtained from all respondents as well as guardians during the interview of adolescent girls. The girls and their mother/guardian were explained about the study, and informed written consent was taken from the respondents as well as guardians. In case of interview with a minor (<18 years) adolescent girl's separate assent also was taken to see if the girl herself is willing to participate in the study. At the time of interview, adolescent girls' privacy was given importance. Those participants who were having any reproductive or menstrual health problem were appropriately managed by the investigator, herself a doctor.

Results

All adolescent girls who were selected agreed to participate in the study. A total of 274 interviews were conducted and all were included for analysis. Table 1 shows the selected demographic characteristics of the participants. The mean age of participants was 17 years with SD 1.6 years. Among 271 participants who ever attended school, almost half of them (53%) had dropped out of school. Out of those who were currently attending school, most of them (65.8%) were going to co- ed school. Seventeen (6.2%) participants were already married even though all of them were below 19 years.

All 274 participants had attained menarche and the mean age at attainment of menarche was a 14.2 ± 1.4 years ranging from 10-18 years. Most frequent source of information related to menstruation was mothers. In this study, self reported reproductive tract infection was considered to be present if participants had any history of white discharge per vaginum or genital itching or burning micturition. Table 2 shows the frequency of these reported symptoms. There were altogether 71 girls (25.9%), who reported symptoms of reproductive tract infections. As only few girls reported more than one symptom, the most common symptom was considered for analysis. Among them, white discharge per vaginum was the most common symptom (17.5%) followed by itching genitals and burning micturition. The different types of treatment sought by the participants for symptoms of reproductive tract infections are given in table 3.

Treatment sought for symptoms of RTI	Frequency	Percentage
None	36	50.7
Private doctor	13	18.3
Government doctor	5	7.1
Household remedy	10	14
Others ¹	7	9.8

¹Others included over the counter drugs, food restrictions and traditional healer

Table 3. Health care seeking for symptoms of RTI by study participants (n=71)

Results show that almost half of them did not seek any treatment. Only few sought medical advice and even if they sought any medical advice, it was mainly from a private practitioner (18.3%) and also household remedy. When enquired about causes of RTIs, around half of them 129 (47.1%) were not aware about the causes of RTIs. Among the rest i.e. 145, 74 (51%) said that it could be because of poor menstrual or poor genital hygiene (11.7%).

Variable	Frequency	Percentage
Causes for RTI		
Poor menstrual hygiene	74	27
Presence of internal disease	34	12.4
Poor genital hygiene	17	6.2
Others ¹	20	7.2
Complications of RTI		
Infertility	35	12.8
Sepsis	35	12.8
Chronic back pain	26	9.4
Others ²	20	7.2

¹Others includes- internal diseases, eating rice, drinking tea etc.

²Others includes- bone damage, pus formation, etc.

Table 4. Awareness of causes and complications of reproductive tract infections (n=274)

Discussion

Prevalence of Reproductive Tract Infections

The present study reported 26% prevalence of symptoms suggestive of reproductive tract infections among adolescent girls. There are other studies which reported prevalence ranging from 16% to 66%.⁸⁻¹⁰ As this is a self reported symptom of RTI, the prevalence may be slightly on higher side. But, we also have combined multiple symptoms as one based on the major complaint. So, we feel the prevalence to be near truth in this random sample. The most common symptom which was reported was white discharge per vaginum. As was reported from other studies, white discharge per vaginum is the most frequent symptom.⁸ Similarly, in a community based cross sectional study by Balasubramaniam in rural Tamil Nadu, almost one fifth (19.4%) of all adolescents complained of white discharge per vaginum.¹⁰ This may be related to unhygienic practices followed in rural India such as not using sanitary napkin during menstruation and poor genital hygiene. There was no difference in the reporting of these symptoms across age groups. 19.4% complained of white discharge per vaginum.¹¹ Even among those sexually active women, P Madhivanan et al. reported that most frequently reported complaints include abnormal vaginal discharge (37%), followed by genital itching (18%), and burning sensation in the genitalia (16%).¹²

Causes of Reproductive Tract Infections

Not many studies are available which have explored the understanding of reproductive tract infections amongst adolescent girls. Many adolescent girls are unaware about many physiologic changes occurring in them. To substantiate in a qualitative study, mothers felt that 30–40% of young girls did not receive any information about

However, 54 girls thought that malnutrition, dietary changes, internal diseases could be the cause of RTIs.

Further, more than half of them (57.7%) did not know any complications because of RTIs. One fourth of them felt that it could lead to sepsis or infertility. Other complications mentioned by 46 participants (16.7%) included chronic back pain, bone damage etc (table 4).

menstruation before menarche.¹³ So, it is expected that they will be ignorant about RTIs unless they suffer from such infection. In this study, majority of participants (129-47.1%) were not aware about the causes of RTIs. It was observed that more than half of the participants did not know about the causes of vaginal discharge or genital itching. Along with this, there were many misconceptions (e.g. about rice eating) regarding the causes of RTI, which in turn affects seeking medical care.

Health Seeking Behavior

In this study, it was observed that many participants were reluctant to seek health care for their reproductive problems. Similar findings were well established in many other studies. In one of the studies, even among those suffering from excessive vaginal discharge, treatment seeking behavior was very poor and only 14.2% of the girls sought treatment from government facilities.⁸ Also about one fifth (18%) sought health care for their gynecological ailments indicating that adolescents were unaware about their reproductive morbidity. Culturally, endogenous infections may be misinterpreted as sexually transmitted diseases, causing embarrassment, shame, and fear of seeking treatment.¹⁴ Numerous misconceptions related to reproductive tract infections also influence the care seeking behavior of adolescent girls and their parents. Added to this is the lack of dedicated service provisions exclusively for adolescents. It has also been noted that younger adolescent girls were less likely to seek care than older ones. Working adolescents who enjoyed autonomy in seeking treatment sought treatment more often than those not working. A recent analysis has found out significant positive association with adolescents aged 15-19 years, having autonomy in treatment, working status, adolescents of joint or extended family ($p < 0.05$).¹⁵ Marital status,

autonomy, disapproving behavior of health providers discourages adolescents from seeking care. The important barriers in the utilization of services for adolescents are lack of awareness of parents, stigma to utilize services, facility available at faraway places, and non-availability of services.¹⁶ Of those who had sought treatment, large proportions of young men and women had sought advice or treatment from a private facility or provider, irrespective of the type of problem.¹⁷ Therefore the possibility of inclusion of private providers, and training them in managing adolescent health issues could be explored.

Conclusions

There is a concern that prevalence of untreated reproductive tract infections among adolescent girls is significant especially in rural India. This has a potential to cause long term consequences for adolescents, which needs to be addressed. Reproductive tract infection, which has become a silent epidemic that devastates women's life, is closely interrelated with poor menstrual hygiene. Therefore, proper menstrual hygiene and correct perceptions and beliefs can protect the women from this suffering. Before bringing any change in menstrual practices, the girls should be educated about the facts of menstruation, and physiological implications regarding RTI. For effective prevention and management of RTIs, accurate information is necessary, and should be widely available. There is a lot of scope of providing dedicated health services tailored for adolescents as they are a vulnerable group. Creating awareness at the community level should be the foremost strategy in addressing adolescent needs. Health seeking among adolescents can be improved by providing quality health services for them. Counselling services needs to be strengthened. Main streaming of informal private providers needs to be considered. Adolescent reproductive and sexual health must be monitored thoroughly in order to get the long term benefits.

Conflict of Interest: Nil

References

- Canadian Pediatric Society. Position statement (AH 2003-02) - Age limits and adolescents. *Pediatr Child Health* Nov 2003; 8(9): 577.
- Adolescent health and development. SEARO. Available from: http://www.searo.who.int/entity/child_adolescent/topics/adolescent_health/en/. Accessed on: Sep 16, 2014.
- Adolescent and Youth Demographics: A brief overview. Available from: <http://www.unfpa.org/webdav/site/global/shared/factsheets/One%20pager%20on%20youth%20demographics%20GF.pdf>. Accessed on: Nov 15, 2014.
- Millennium Development Goals. WHO. Available from: <http://www.who.int/mediacentre/factsheets/fs290/en/>. Accessed on: Sep 16, 2014.
- National Reproductive Tract Infections policy guidelines. Available from: http://www.policyproject.com/pubs/countryreports/gha_rtiguide.pdf. Accessed on: Sep 16, 2014.
- Hawkes S, Morison L, Foster S et al. Reproductive-tract infections in women in low-income, low-prevalence situations: assessment of syndromic management in Matlab, Bangladesh. *The Lancet* Nov 1999; 354(9192): 1776–81.
- Sabarwal S, Santhya KG. Treatment-Seeking for Symptoms of Reproductive Tract Infections Among Young Women in India. *Int Perspect Sex Reprod Health* Jun 2012; 38(2): 90–98.
- Jain K, Garg SK, Singh JV et al. Reproductive health of adolescent girls in an urban population of Meerut, Uttar Pradesh. *Health and Population: Perspectives and Issues* 2009; 32(4): 204–209.
- Dawn A, Biswas R. Reproductive tract infection: an experience in rural West Bengal. *Indian J Public Health* Jun 2005; 49(2): 102–103.
- Health Needs of Poor Unmarried Adolescent Girls. Rural Women's Social Education Centre. Available from: http://www.ruwsec.org/wp-content/uploads/2012/06/RP_19.pdf. Accessed on: Sep 16, 2014.
- Joseph GA, Bhattacharji S, Joseph A et al. General and reproductive health of adolescent girls in rural south India. *Indian Pediatr* Mar 1997; 34(3): 242–45.
- Madhivanan P, Krupp K, Hardin J et al. Simple and inexpensive point-of-care tests improve diagnosis of vaginal infections in resource constrained settings. *Trop Med Int Health TM IH* Jun 2009; 14(6): 703–708.
- Thakur H, Aronsson A, Bansode S et al. Knowledge, Practices, and Restrictions Related to Menstruation among Young Women from Low Socioeconomic Community in Mumbai, India. *Front Public Health* 2014; 2: 72.
- Reproductive Tract Infections: An introductory Overview. Population Council. Available from: <http://www.popcouncil.org/uploads/pdfs/RTIFacsheetsRev.pdf>. Accessed on: Sep 16, 2014.
- Rahman MM, Kabir M, Shahidullah M. Adolescent self reported reproductive morbidity and health care seeking behaviour. *J Ayub Med Coll Abbottabad JAMC* Jun 2004; 16(2): 9–14.
- Nair MKC, Leena ML, George B et al. ARSH 5: Reproductive health needs assessment of adolescents and young people (15-24 y): a qualitative study on “perceptions of community stakeholders”. *Indian J Pediatr* Nov 2013; 80 Suppl 2: S214–21.
- International Institute for Population Sciences (IIPS) and Population Council. 2010. Youth in India: Situation and Needs 2006–2007. Mumbai: IIPS.

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