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A study of reproductive health problems among rural adolescent girls of Mohanpur block of West Tripura district

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Abstract: *Objectives:* (1) To study the various reproductive health problems among rural adolescent girls in study area. (2) To ascertain the knowledge of reproductive health and health care-seeking behavior among rural adolescent girls. *Background:* Adolescence is characterized by menarche among girls which is often associated with several reproductive problems. It is necessary to assess the enormity of the problem to take appropriate interventions. *Materials and Method:* This cross-sectional study was conducted in July and August, 2011 in a randomly selected sub-center area, under Mohanpur CHC. The sample size was calculated and 200 adolescent girls in the age group 10-19 years were selected by simple random sampling for the study. *Results:* The study showed that the prevalence of dysmenorrhea was 59.50 percent. 14.50 percent of the respondents had menstrual irregularity, 5.50 percent had menorrhagia, while Pre-Menstrual Syndrome was perceived by 8.50 percent of the respondents. Higher age of attainment of menarche had significant trend of pain during menstruation. 37.00 percent of the respondent adolescent girls used household remedy for reproductive health problems. *Conclusions:* The study indicates that the problem is enormous and there is need for appropriate intervention to utilize and upgrade the services for the benefit of the adolescent girls

Keywords: Dysmenorrhoea, Reproductive health, Rural Adolescent girls

Introduction

Adolescents represent a major potential human resource for the overall development of a nation. But adolescent girls often experience reproductive problems like dysmenorrhea, premenstrual syndrome, menorrhagia, irregular cycle lengths, etc. associated with her menstrual cycle. In India, prevalence of dysmenorrhea among adolescent girls has been reported within 27.90 percent to 79.67 percent [1-5]. But data on reproductive and general health concerns of this young population are scarce in the states of North-Eastern India, particularly Tripura, without which, meaningful programmes cannot be implemented. Hence it was planned to study the various reproductive health problems among rural adolescent girls in study area and to ascertain the knowledge of reproductive health and health care-seeking behavior among them.

Material and Methods

The study was a descriptive cross-sectional and was conducted between July and August, 2011 in Laxmipara, one of the randomly selected sub-center area, out of 19 sub centres, under Mohanpur CHC, the rural Field practice area attached to the Department of Community Medicine, Agartala Government Medical College.

The sample size was calculated considering the prevalence of dysmenorrhea (p) to be 67.20 percent [6] and an absolute precision of 6.72 percent. Using the formula, sample size, $N= Z^2_{\alpha/2} pq / E^2$, the minimum required sample size for this study was 188 adolescent girls. But a total 200 numbers of adolescent girls in the age group 10-19 years were included for the study. Married adolescent girls were excluded since they frequently use contraceptive methods and adolescent girls who attained menarche for less than one year at the time of the study were also excluded since both the groups does not reflect the true picture of reproductive health problems of adolescent girls.

The population of Laxmipara was approximately 6120, with approximately 680 adolescent girls in the sub center area. From the list of family register, list of all the eligible

adolescent girls was prepared (sampling frame). Using three random number table, 200 elements of adolescent girls were identified for the study. Pretested semi-open ended interview schedule validated by the investigator, was used covering the socio-demographic profile, reproductive health problems, knowledge of reproductive health and health care-seeking behavior, etc. and was administered face-to-face at the residence, by a medical student under supervision of assistant professor and post graduate resident of Department of Community Medicine, to collect all the relevant information from the adolescent girls. If the adolescent girl was absent on the day of interview, adjacent next house was taken up. Informed consent was taken from girls of >18 years of age and for girls of <18 years age ascent has been taken from them and consent was taken from their parents before interview. Statistical Analysis was done in Epi.info using frequency, percentage, chi square tests and multiple logistic regression analysis. Study was approved by the Institutional Ethics Committee of Agartala Government Medical College.

Observations and Results

Out of 200 respondents 21.50 percent of them were at 19 yrs of age, and majority of them were educated up to secondary education (71.50%). Table 1 shows the socio demographic profile of the respondent adolescent girls and the mean and median ages of the respondents were 15.92 years and 12.00 years respectively. All of them were Hindu and majority (89.00%) of them was students. Most of the respondents belonged to scheduled caste (45.50%), followed by general (39.00%), scheduled tribe (15.00%) and OBC (0.50%).

Table-1: Socio-demographic characteristics of the study population

Variables		Frequency	Percent
Age	12 Years	17	8.5
	13 Years	23	11.5
	14 Years	22	11.0
	15 Years	28	14.0
	16 Years	26	13.0
	17 Years	18	9.0
	18 Years	23	11.5
	19 Years	43	21.5
Education	Primary	57	28.5
	Secondary	143	71.5
Occupation	Student	178	89.0
	Others	22	11.0
Religion	Hindu	200	100.0
Cast	SC	91	45.5
	ST	30	15.0
	OBC	1	0.5
	General	78	39.0

Table 2 shows that 14.50 percent of the respondents suffered from menstrual irregularity, 5.50 percent had heavy menstrual bleeding while 6% had scanty menstrual bleeding. 25.00 percent of the respondents had longer bleeding duration. 90.50 percent of the respondent adolescents had cycle lengths greater than or equal to 28 days. Pre-menstrual syndrome was perceived by 8.50 percent of the adolescent girls.

Pain during menstruation was again elicited by asking a close-ended question about dysmenorrhoea and response rate was 59.50 percent. The intensity of the pain was mild in 32.00 percent of the respondents, while it was severe in 15.00 percent of the respondents. The pain persisted for <24 hours in almost half (50.50%) of the respondents, followed by 24-48 hours in 7.00 percent and >48 hours in only 2.00 percent.

Table-2: Reproductive health problems among the adolescent girls in the study area

Variable		Frequency	Percent
Menstrual Cycle	Regular	171	85.5
	Irregular	29	14.5
Cycle length	<28days	19	9.5
	≥28 days	181	90.5
Menstrual Bleeding	Very less	12	6
	Average	177	88.5
	Heavy	11	5.5
Bleeding Duration	<4 days	62	31
	4 to 5 days	88	44
	≥6 days	50	25

Variable		Frequency	Percent
Premenstrual syndrome	Yes	17	8.5
	No	83	91.5
Dysmenor-rhoea	Yes	119	59.5
	No	81	40.5
Severity of pain	Mild	64	32
	Moderate	25	12.5
	Severe	30	15
Duration of pain	<24 hrs	101	50.5
	24-48 hrs	14	7
	>48 hrs	4	2
Associated problems	Fatigue	6	3
	Headache	32	16
	Dizziness	2	1
	Abdominal discomfort	20	10

Table 3 shows that higher age of attainment of menarche had significant trend of pain during menstruation (x^2= 0.019, df=8). Severity of pain was subjectively assessed and degree of pain severity was related to differences in pain perception and variability in pain threshold.

Table-3: Relation between attainment of menarche and pain during menstruation

Attainment of Menarche	Pain during menstruation		
	Yes	No	
10 Years	6	8	**df = 8**
11 Years	10	16	x^2= **0.019**
12 Years	50	20	
13 Years	31	20	
14 Years	17	8	
15 Years	3	7	
16 Years and above	2	2	

Table 4 shows that in this study cycle regularity (p value 0.946), amount of bleeding (p value 0.633 for less amount of bleeding and 0.599 for average bleeding) and cycle length (p value 0.978) had no significant association with dysmenorrhea.

Table-4: Multiple logistic regression analysis for dysmenorrhea and menstrual cycle factors

Predictor variable		P value	OR (95% C.I.)
Cycle regularity	Regular	0.946	1.047 (0.273-4.013)
	Irregular	-	1
Amount of bleeding	Less	0.633	1.78 (0.167-18.937)
	Average	0.599	0.602 (0.09-4.001)
	Heavy	-	1
Cycle length	<28 day	0.978	1.016 (0.319-3.239)
	≥ 28 day	-	1

From table 5, it is observed that 74 (37%) respondents in the study population used herbs/home remedies, analgesics/non-steroidal anti-inflammatory drugs (NSAIDs) / antispasmodics were used by 16 (8%). Only 14 (7%) respondents consulted a government physician and two (1%) respondents consulted a private doctor. Eight respondents (4%) sought help from traditional healer. Only five (2.5%) respondents with dysmenorrhea had not taken any medication. Only 17 (8.55%) respondents had knowledge of reproductive tract infections and sexually transmitted infections.

Table-5: The health care-seeking behavior and knowledge of reproductive health among rural adolescent girls

Variables	Frequency	Percent
Health Care-Seeking Behavior		
Household remedy	74	37.0
Over the counter drugs	16	8
Government doctor	14	7
Private doctor	2	1
Traditional healer	8	4
Rest and relaxation	5	2.5
Knowledge of Body Changes That Occur With Menarche		
Yes	101	50.5
Breast changes	12	6
Physical growth	89	44.5
Knowledge of RTI/ STI		
Yes	17	8.5
No	183	91.5

Discussion

The present study was conducted among 200 randomly selected adolescent girls to study the various reproductive health problems and to ascertain the knowledge of reproductive health and health care-seeking behavior among rural adolescent girls. The mean age of the adolescent girls at menarche was 12.46 years with the median age of 12 years. A study conducted by Patil et al in Bijapur revealed that the mean age at menarche was 14 years in the rural adolescent girls [1]. Like other parts of the world, the age at menarche of the Indian girls is declining, and the mean age at menarche of the present study is lower than that of another Indian published study [2] but similar to that of a study from West Bengal [7].

In the present study, 14.50 percent of the respondents suffered from menstrual irregularity, 5.50 percent had heavy menstrual bleeding while 6.00 percent had scanty menstrual bleeding. Similar finding of prevalence of heavy menstrual bleeding was reported in a study conducted in Bijapur (5.90%) [1]. Sanyal and Ray reported heavy menstrual discharge was reported by 38.47 percent of the adolescent girls while some girls reported to have experienced pain with scanty discharge (17.82%) [7].

The prevalence of premenstrual symptoms was found to be 8.50 percent, compared to another study where the prevalence of PMS was reported as 12.00 percent of girls in the rural group in a study by Avarsala and Panchangam [3]. Two-thirds of the respondents complained of PMS in a study by Nair *et al* [2] and 93.20 percent respondents complained of PMS in a study by Patil et al [1]. The variation of pre menstrual symptom may be due to subjective nature of the symptoms.

In the present study, dysmenorrhea was reported by 59.50 percent of the respondents. Several studies conducted among the adolescent girls reported the prevalence of dysmenorrhea to be 54.00 percent to 79.00 percent [2-5]. But a study conducted in Bijapur among rural adolescent girls revealed a lower prevalence of dysmennorhoea (27.90%) [1]. The pain was severe in 15.00 percent of the respondents in the present study. Agarwal *et al* reported 37.96 percent adolescents suffered from severe dysmenorrhea [4], whereas in another study, severe dysmenorrhoea was reported by 14.80 percent of adolescents [5]. Present study observed that pain persisted for <24 hours in 50.50 percent, and >48 hours was only 2.00 percent of the respondents. El-Gilany et al reported that 64.90 percent of adolescents had dysmenorrhea lasting for 24 hours or less, and only 8.60 percent of adolescents reported pain lasting for more than 48 hours [5].

Regarding health care-seeking behavior, the present study revealed that 37.00 percent of the respondent adolescent girls used household remedy for their reproductive problems. Wong LP *et al* reported that medical treatment was sought for by (14.80%) adolescents in Malaysia [8].

Present study showed that 6.00 percent respondents had the knowledge about the breast changes during menarche. In a similar study from rural area of East Delhi by Nair *et al* reported; 59.70 percent were aware of the breast enlargement [2].

From the present study, it was found that only a few (8.55%) had knowledge about Sexually Transmitted Diseases. Similar study by Dorle *et al* [9] reported that one-fourth of the respondents had correct knowledge on STIs/RTIs and AIDS. Again a study conducted by Singh A et al reported that AIDS was perceived by 94.00 percent of adolescent girls [10]. So regarding knowledge of STD, HIV & AIDS, respondents were poorly acknowledged.

Adolescent girls, almost always silently suffer the pain during menstruation and the discomfort associated with it. The findings of this study thus indicate the enormity of the problem and the need for appropriate intervention through a change in lifestyle. The correct knowledge regarding puberty changes, STDs and HIV/AIDS was poor among the rural adolescent girls. So, this indicated the necessity of the inclusion of reproductive health education in the curriculum. In the maturity process of young girls more involvement is needed from parents and schools with well designed health education and free intra-family communication on

reproductive health problems. The present study might help to plan better management of the problems, appropriately utilize the available services and upgrade the services for the ultimate benefit of the adolescent girls through proper and effective interventions.

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References

1. Patil MS, Angadi MM. Menstrual pattern among adolescent girls in rural area of Bijapur. *Al Ameen J Med Sci* 2013; 6(1):17-20.
2. Nair P, Grover VL, Kannan A T. Awareness and practices of menstruation and pubertal changes amongst unmarried female adolescents in a rural area of East Delhi. *Indian J Community Med* 2007;32:156-7
3. Avasarala AK & Panchagam S. Dysmenorrhea in different settings: Are the rural and urban adolescent girls perceiving and managing the dysmenorrhea problem differently. *Indian J Community Med* 2008; 33(4):246-249.
4. Agarwal AK and Agarwal A. A study of dysmenorrhea during menstruation in adolescent girls. *Indian J Community Med* 2010; 35(1):159-164.
5. El-Gilany AH, Badawi K, El-Fedawy S. Epidemiology of dysmenorrhoea among adolescent students in Mansoura, Egypt. *East Meditarr Health J* 2005; 11:155-63.
6. Sharma P, Malhotra C, Taneja DK, Saha R. Problems related to menstruation amongst adolescent girls. *Indian J Pediatr.* 2008;75(2):125-9
7. Sanyal S, Ray S. Variation in the menstrual characteristics in adolescents of West Bengal. *Singapore Med J* 2008; 54.
8. Wong LP. Attitudes towards dysmenorrhoea, impact and treatment seeking among adolescent girls: a rural school-based survey. *Aust J Rural Health.* 2011; 19(4):218-23.
9. Dorle AS, Hiremath LD, Mannapur BS, Ghattargi CH. Awareness regarding puberty changes in secondary school children of Bagalkot, Karnataka-A cross sectional study. *J of Clinical and Diagnostic Research* 2010; 4:3016-3019.
10. Singh A, Rathore R. Consciousness of reproductive health among rural and urban adolescent girls. *Indian J. L. Sci.* 2012; 1(2):51-53.

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