

The Prevalence of Reproductive Health Problems of School Going Adolescent Girls of Kashmir Valley – A Cross Sectional Study

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ABSTRACT

Introduction: In India adolescents constitute about 22.8% of total population forming a significant proportion of the population. Reproductive health is an important area of concern in adolescent health especially in girls. Menstrual concerns which include problems like dysmenorrhoea, irregular periods and pre menstrual symptoms are very common in adolescent girls.

Material and Methods: Aims and Objectives: To identify the reproductive health problems of school going adolescent girls of Kashmir Valley and various factors associated with these health problems. A cross sectional study design was adopted and the study was conducted in randomly selected schools in three districts of Kashmir Valley during April 2014 to March 2015. A total of 428 girls in the age group of 12 to 18 years were included in the study. Data was collected using a pre tested and pre structured proforma which included assessment of various symptoms pertaining to reproductive health problems.

Results: It was seen that 54.90% of the girls had one or more type of menstruation related problem and 45.30% girls had one or more symptoms suggestive of Reproductive tract infections. The most common menstruation related problem was dysmenorrhoea and the most common symptom of Reproductive tract infections was excess/abnormal vaginal discharge.

Conclusion: Thus it is concluded from this study that a considerable proportion of adolescent girls suffered from reproductive health problems which need to be addressed in order to improve the overall health status of these girls.

Keywords: Adolescents, Menstruation related problems, Reproductive health, Reproductive tract infections.

problems.

MATERIAL AND METHODS:

A cross sectional study design and multistage random sampling technique was adopted and the study was conducted in randomly selected Girls high schools and Girls higher secondary schools in three districts of Kashmir Valley during April 2014 to March 2015. Girls in the age group of 12 to 18 years studying in these schools were included in the study.

The calculation of required sample size was carried out using prevalence (p) as 50% and an allowable error of 5% and using the formula:

$$n = Z^2 p(1-p)/e^2$$

n = estimated sample size

p = expected prevalence

Z = statistic for 95% level of confidence (1.96)

e = allowable error

Thus the sample size was 422 including a 10% for non responders. To round off, a sample size of 450 was taken (including a margin of 10% for non response rate).

One district was selected from each of the three geographical regions of Kashmir valley. District Srinagar was purposely selected from the central region because of its urban character and represented our urban adolescent population while as districts Baramulla and Pulwama were randomly selected from North Kashmir and South Kashmir respectively. These two districts represented our rural adolescent population.

Since the enrolment ratio of school going adolescent girls in the age group of 12-18 years in urban and rural areas of Kashmir Valley is 1.07:1⁶, the calculated sample size was divided in the ratio of 1.07:1 between the selected urban and rural districts of Kashmir.

The study was conducted in a total of 18 girls schools (9 high schools and 9 higher sec schools) out of which 12 were government schools and 6 were private schools (giving due weightage to the distribution of government and private schools in Kashmir Valley).⁷ The number of students to be taken from each school and class was calculated on the basis of Probability Proportional to Size (PPS) technique.

INTRODUCTION

WHO defines adolescence as the segment of life between the ages of 10 to 19 years. This transitional stage of life is characterized by rapid physical and psychological development, sexual maturity and transition from dependence to relative independence.¹ Adolescents constitute about 20% of the total world population.² In India adolescents constitute about 22.8% of total population forming a significant proportion of the population.³ Reproductive health is an important area of concern in adolescence especially in girls and is a sensitive issue especially in Indian society. In such circumstances it is difficult to assess reproductive health problems and needs of the adolescents.⁴ Reproductive health problems including menstrual concerns and RTIs are very common among girls of this age group. It has been reported in a study conducted in Rajasthan that overall 64% of girls suffered from reproductive tract infections.⁵

Study aimed to identify the reproductive health problems of school going adolescent girls of Kashmir Valley; identify various factors associated with these health problems and to recommend measures for prevention and control of these health

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Ethical clearance was sought from the Institutional Ethics Committee. Besides this, proper permission was taken from Director School Education, Kashmir, Chief Educational Officers and the school authorities. Informed consent was taken from the participants and their parents. Girls in need of medical attention were appropriately referred.

Assessment of Reproductive Health: Reproductive health problems included menstruation related problems like dysmenorrhea, menorrhagia, oligomenorrhea, irregular periods and pre menstrual syndrome on the basis of history and assessment of reproductive tract infections on the basis of symptoms suggestive of reproductive tract infections like abnormal or excessive vaginal discharge, lower abdominal pain, Burning micturition, lower abdominal pain unrelated to menstrual periods, vulval pruritis, abnormal/ excessive vaginal discharge, any inguinal swelling, genital ulcer and painful defecation.

STATISTICAL ANALYSIS

Data was analysed using SPSS version 20.00. Descriptive statistics like mean and SD were used for statistical analysis. Chi square test were used for the comparison.

RESULTS

A non-response rate of 4.88% (22) was encountered. Thus a total of 428 adolescent girls participated in the study. Table 1 depicts the socio-demographic profile of the study population. It was observed that 48.40% of the adolescents belonged to a rural area while as 51.60% belonged to urban background. 56.50% of the adolescents studied in government schools and 43.50% studied in private schools. 37.90% study population was in the age group of 12-14 years and 62.10% were in the age group of 15-18 years. All of the participants were unmarried. It was observed that almost all i.e. 95.80% participants were Muslims, 4% were Sikhs and only 0.20% was Hindu. 70.10% participants came from nuclear families

and 29.90% came from joint families. It was seen that 48.4% participants had illiterate mothers and 51.60% had literate mothers and 79.2% had mothers who were homemakers and 20.80% had working mothers.

The socioeconomic status of the study population was assessed on the basis of Modified B G Prasad’s Classification.⁸ SE classes I and II have been grouped together and considered as upper class, SE class III considered as middle class and SE classes IV and V together considered as lower SE class. 45.56% (195) of the study population belonged to lower SE class followed by 37.62% (161) belonged to middle class and 16.82% (72) belonged to upper SE class.

The mean age of menarche in the adolescent girls was 10.66 years±1.02. It was seen that 235 (54.90%) of the girls had one or more type of menstruation related problem and 194 (45.30%) girls had one or more symptoms suggestive of RTIs.

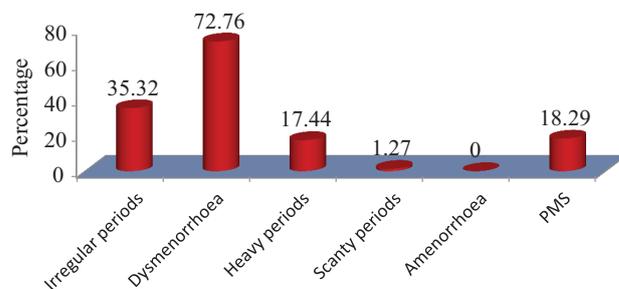
Figure 1 shows the prevalence of different types of menstruation related problems among the girls reporting menstruation related problems. The most common problem was dysmenorrhoea (72.76%).

A significantly higher prevalence of menstruation related problems was seen in 12-14 years age group (61.70%) than in 15-18 years age group (50.80%) (*P* = 0.027).

The most common symptom of RTIs was excess/abnormal vaginal discharge which was present in 169 (87.11%) of the girls with RTI followed by vulval pruritis, lower abdominal pain and burning micturition seen in 21.13%, 12.89% and 6.18% of the girls with RTI respectively.

Table 2 shows sociodemographic correlates of RTIs. A significantly higher prevalence of RTIs was seen in the adolescent girls in the age group of 15-18 years (49.20%) than 12-14 years age group (38.9%) (*P* = 0.037). A higher prevalence of RTIs was seen in adolescents belonging to lower class (55.90%) followed by upper class (41.70%) (*P* = 0.039). The study participants belonging to rural areas had a significantly higher prevalence (51.70%) of RTI, than those from urban areas (39.40%). Girls with illiterate mothers had a significantly higher prevalence of RTIs (53.60%) than those with literate mothers (37.60%, *P* = 0.001). The study participants from government schools had a significantly higher prevalence of RTIs (52.90%) than those from private schools (35.50%, *P* < 0.001).

Table 3 shows the relation of RTIs with menstrual hygiene. It was observed that menstrual hygiene was poor in 17 (4%) of the girls. The prevalence of RTI was significantly higher in girls who had a poor menstrual hygiene (70.6%) than those with



(*multiple responses by study population)

Figure-1: Prevalence of different types of menstruation related problems in the study population among the adolescents reporting menstruation related problems (N=235)

S. No	Sociodemographic	variable	N	%
1	Residence	Rural	207	48.40
		Urban	221	51.60
2	Type of school	Government	242	56.50
		Private	186	43.50
3	Age	12-14 years	162	37.90
		15-18 years	266	62.10
4	Marital status	Unmarried	428	100
		Married	0	0.00
5	Religion	Muslim	410	95.80
		Hindu	1	0.20
		Sikh	17	4.00
6	Type of family	Nuclear	300	70.10
		Joint	128	29.90
7	Mother’s Literacy status	Illiterate	207	48.40
		Literate	221	51.60
8	Mother’s occupation	Homemaker	339	79.20
		Working	89	20.80
9	Socioeconomic Status	Upper Class	72	16.82
		Middle Class	161	37.62
		Lower Class	195	45.56

Table-1: Sociodemographic profile of the study population

S.no	Sociodemographic variable		Reproductive tract infection						p value, Odd's Ratio(OR), 95% CI for OR
			Total		present		Absent		
			N	%	n	%	n	%	
1	Age	12-14 years	162	37.90	63	38.90	99	61.10	p=0.037, OR=1.525 (1.025-2.268)
		15-18 years	266	62.10	131	49.20	135	50.80	
2	Socioeconomic status	Upper class	72	16.82	30	41.70	42	58.30	Reference category
		Middle class	161	37.62	55	34.20	106	65.80	p=0.271, OR=0.726 (0.411-1.285)
		Lower class	195	45.56	109	55.90	86	44.10	p=0.039, OR=1.774 (1.027-3.067)
								p <0.001	
3	Residence	Rural	207	48.40	107	51.70	100	48.30	p=0.010, OR=0.607 (0.413-0.890)
		Urban	221	51.60	87	39.40	134	60.60	
4	Type of family	Nuclear	300	70.10	137	45.70	163	54.30	p=0.829, OR=0.995 (0.630-1.448)
		Joint	128	29.90	57	44.50	71	55.50	
5	Mother's literacy	Illiterate	207	48.40	111	53.60	96	46.40	p=0.001, OR=0.520 (0.354-0.765)
		Literate	221	51.60	83	37.60	138	62.40	
6	Mother's Occupation	Homemaker	339	79.20	156	46.00	183	54.00	p=0.575, OR=1.144 (0.714-1.833)
		Working	89	20.80	38	42.70	51	57.30	
7	Type of school	Government	242	56.50	128	52.90	114	47.10	P <0.001, OR=0.490 (0.331-0.725)
		Private	186	43.50	66	35.50	120	64.50	

Table-2: Relation of reproductive tract infections with sociodemographic variables of the study population

Menstrual hygiene↓	Total		Reproductive tract infection				p value, Odd's Ratio(OR), 95% CI for OR
			present		absent		
			N	%	n	%	
Satisfactory	411	96.00	182	44.30	229	55.70	p=0.033, OR=3.020 (1.045-8.727)
Poor	17	3.97	12	70.60	5	29.40	
Total	428	100.00	194	45.30	234	54.67	

Table-3: Relation between reproductive tract infections and menstrual hygiene

satisfactory menstrual hygiene (44.3%) ($P = 0.033$).

DISCUSSION

In the present study it was seen that 54.90% of the adolescent girls had one or more type of menstruation related problem. Almost a similar prevalence of menstruation related problems was reported by Rahman MM et al (63.9%) in their study on adolescent girls in Bangladesh.⁹ However, studies conducted by Jaikhani SMK et al in Maharashtra¹⁰ reported a higher prevalence of menstruation related problems (74.3%) among adolescent girls.

The most common menstruation related problem in the present study was dysmenorrhoea (72.76%). Nair MKC et al also reported dysmenorrhoea to be the most common menstruation related problem in adolescent girls (72.4%) in Thiruvananthapuram.¹¹

In the present study age was significantly associated with menstruation related problems ($P = 0.027$) with higher

prevalence in 12-14 years age group (61.70%) than in 15-18 years age group (50.80%). This difference may be due to higher prevalence of dysmenorrhea, irregular cycles and puberty menorrhagia at the time of menarche.

In the present study it was seen that 45.30% adolescent girls had one or more symptoms suggestive of RTIs. Dutt R et al reported almost a similar prevalence of RTI (37%) among adolescent girls.¹³ However, a higher prevalence of RTI among female adolescents(64%) was reported by Ram R et al¹⁴ in Kolkatta.

In our study the most common symptom of RTI was excess/ abnormal vaginal discharge which was present in 169 (87.11%) of the girls with RTI. Excessive vaginal discharge was also reported as the most common symptom of RTI among adolescent girls (80.3%) by Jain K et al in Meerut, UP.¹⁵

A higher prevalence of RTIs was seen in adolescents belonging to lower SE class (55.90%) followed by upper class (41.70%). Dutt R et al in their study conducted in Raigad, Maharashtra also observed that the prevalence of RTI in adolescent girls

decreased significantly with increase in socio economic status ($P < 0.05$).¹³

The study participants belonging to rural areas had a significantly higher prevalence (51.70%) of RTI than those from urban areas (39.40%, $P = 0.010$). Similar difference in RTI among rural and urban adolescents in West Bengal were reported by Ray S et al.¹⁶

Girls with illiterate mothers had a significantly higher prevalence of RTIs (53.60%) than those with literate mothers (37.60%, $P = 0.001$). This may be because literate mothers are better aware of personal and menstrual hygienic practices reflected by a better reproductive health.

In the present study it was seen that the prevalence of RTI was significantly higher in adolescent girls who had a poor menstrual hygiene (70.6%) than those with satisfactory menstrual hygiene (44.3%, $P = 0.033$). Jain K et al also observed a significant association of RTI with personal hygiene with prevalence rate of RTIs higher (90.9%) in adolescents with poor personal hygiene and than those with good personal hygiene (10.6%, $P < 0.001$) in Meerut, UP.¹⁵

CONCLUSION

Thus, a considerable proportion of adolescent girls suffered from reproductive health problems. The common reproductive health problems encountered were menstruation related problems, dysmenorrhea being the most common and reproductive health problems, among which the most common symptom was abnormal/ excessive vaginal discharge.

In order to improve the reproductive health of adolescent girls they need to be educated about and prepared for menarche and maintenance of menstrual hygiene. The school teachers should be trained to impart reproductive health education in classes. Mothers also need to be educated about menstruation and related problems. School girls can be trained as peer educators to educate other girls regarding various aspects of reproductive health. Policymakers should be informed about the needs of young people and advocate for need based policy changes.

REFERENCES

1. Ghai OP. Textbook of essential paediatrics. 6th ed. New Delhi: CBS Publishers; 2005, p. 66-67, 76, 73, 78.
2. WHO Nutrition in adolescents-Issues and challenges for the health sector. 2005. p.1.
3. Lal S, Adarsh, Pankaj. Textbook of Community Medicine. 3rd ed. New Delhi: CBS Publishers; 2013. p.155-6.
4. Toteja GS, Singh P, Dhillon BS, Saxena BN. Iodine deficiency disorders in 15 districts of India. *Indian J paediatr.* 2004;71:25-8.
5. Khanna A, Goyal RS, Rahul B. Menstrual practices and reproductive problems: A study of adolescent girls in Rajasthan. *Journal of Health Management.* 2005;7:91-107.
6. www.dsek.nic.in. Accessed on 12th March 2015.
7. International Institute for Population Sciences (IIPS), 2010. District Level Household and Facility Survey (DLHS-3 India). 2007-08; p.41. Accessed on 20th Feb, 2015.
8. Mangal A, Kumar V, Panesar S, Talwar R, Raut D, Singh S. Updated B G Prasad socioeconomic classification, 2014: A commentary. *Indian J Public Health.* 2015; 59:p.42-4.
9. Rahman MM, Kabir M, Shahidullah M. Adolescent self reported reproductive morbidity and health care seeking behaviour. *J Ayub Med Coll Abbottabad.* 2004;16:p.9-14.

10. Jaikhani SMK, Naik JD, Thakur MS, Langre SD, Pandey VO. Patterns and problems of menstruation amongst the adolescent girls residing in the urban slum. *Sch. J. Ap Med. Sci.* 2014;2:p. 529-34.
11. Nair MKC, Chacko DS, Darwin MR, Padma K, George B, Russell PS. Menstrual disorders and menstrual hygiene practices in higher secondary school girls. *Indian J paediatr.* 2012;79:p.74-8.
12. Dutt R, Patil S, Joshi S, Ramdev KSS. Prevalence of reproductive tract infections among adolescent girls in rural area of Raigad district, Maharashtra. *Bombay Hosp J.* 2010;52:p.309-11.
13. Ram R, Bhattacharya SK, Bhattacharya K, Baur B, Starker T, Bhattacharya A et al. Reproductive tract infection among female adolescents. *IJCM.* 2006;31:p.32-3.
14. Jain K, Garg SK, Singh JV, Bhatnagar M, Chopra H, Bajpai SK. Reproductive health of adolescent girls in an urban population of Meerut, Uttar Pradesh. *Health Popul Perspect Issues.* 2009;32:p.204-9.
15. Ray S, Mishra SK, Roy AG, Das BM. Menstrual characteristics: A study of the adolescents of rural and urban West Bengal, India. *Ann Hum Biol.* 2010;37:p.668-81.

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