

Knowledge Regarding Menstrual Hygiene among Adolescent Girls in selected school, Mangalore with a View to Develop an Information Booklet

Anusree P. C.¹, Ardra Roy², Aswathy B. Sara³, Faseela VCM⁴, Gincy P. Babu⁵
Anupama Tamrakar⁶

¹⁻⁵(*B. Sc Nursing IVth Year Students, Yenepoya Nursing College, Yenepoya University, Mangalore, India*)

⁶(*Lecturer, Department of OBG Nursing, Yenepoya Nursing College, Yenepoya University, Mangalore, India*)

I. INTRODUCTION

Adolescent is a period of transition from childhood to adulthood; which is usually between the age group 11 and 20 years¹. Globally there were 1.2 billion adolescent girls in the year 2009, which forms eighteen percent of the world's population. Adolescent girls in India constitute almost 47 percentage of the population².

Adolescent period is the formative period when maximum amounts of changes take place and pubertal change is one of them. The main pubertal change that occurs in girls is menstruation. This is an important landmark in the process of growth and maturation and prepares them for motherhood. Yesterday's girl is today's adolescent and tomorrow's mother¹.

Menstruation is a physiological phenomenon which is unique to females that begins in adolescence. It is monthly uterine bleeding for 4-5 days coming regularly every 28 days. Normally females get 13 menses in a year and around 400 menses in her reproductive life. The first menstruation is termed as "menarche". The age of menarche is between 10- 16 years in India³. Though menstruation is a natural and normal physiological process for all healthy adult women as ever, it has been surrounded by secrecy, negativity and myths in much society⁴. It is still clouded by socio-cultural restriction and taboos and associated with various myth and misconception⁵. A study conducted in Ranchi, India reported that 45.5% of the girls face social restrictions, majority of them were restricted in religious practices, wearing new clothes, cooking food, etc⁶. Girl should have good menstrual hygiene practice during this period.

Menstrual hygiene refers to the personal hygiene practice during menstruation. A girl needs to practice a high level of personal hygiene during her periods and the personal hygiene starts from the selection of best sanitary products, its proper usage, disposal, body cleanliness, diet, etc. Menstrual hygiene is important because it is a natural process of hygiene related to practice of girls during menstruation as it has an impact in terms of to prevent reproductive tract infections and urinary tract infections⁷.

Many studies depicted that there is improper and inadequate care and unhygienic practices during menstruation among adolescent girls. An article in The Times of India revealed that only 12% of menstruating women use sanitary napkins and 88% of women use unsanitized cloth, ashes and husk sand. Incidence of reproductive tract infection is 70% more common among these women⁸. Moreover, hygiene is neglected by girls especially in rural areas, due to lack of availability and inability to afford sanitary napkins⁹. A study conducted in Aurangabad, India reported that 60% of urban girls used market available sanitary napkins whereas; this was limited to 6% of rural girls¹⁰.

There is lack of awareness of menstrual hygiene and care during menstruation which is due to the lack of education related to menstruation and menstrual hygiene. A study conducted in Nagpur reported that only 36.95% of the girls were aware of menstruation before menarche. More than three fourth of girls were not aware about the cause and source of bleeding and majority of them had knowledge about the use of sanitary pads¹¹.

Good menstrual hygiene practice of girls during menstruation are considerable vital, as it has an impact in terms of increased vulnerability to reproductive tract infections. Ill hygiene practices which sometime result in reproductive tract infection and its complication further can lead to complications in pregnancy and transmitted to the offspring during pregnancy¹². Several reports have suggested that there is association between menstrual hygiene and reproductive tract infection and in the psychosocial wellbeing of women and girls⁷.

Therefore, adolescent girls need the support and guidance of parents and nurses to facilitate healthy life practices. Increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women¹³. Equipping adolescent girls with adequate information, and skills on menstrual hygiene and its management is seen as empowering them with knowledge which enhances their self-esteem and academic performance¹⁴. This study was aimed to assess the knowledge regarding menstrual hygiene among adolescent girls and create awareness among them by developing and distributing information booklet on menstrual hygiene.

II. Methods And Materials

2.1 Methods

A descriptive survey approach was adopted for this study. Sixty adolescent girls, studying in seven, eight and nine class of Hira Girls Public School were selected for samples by using purposive sampling technique.

2.2 Materials

A structured knowledge questionnaire was used as a tool for data collection. The structured questionnaire consisted of section A with demographic proforma of adolescent girls and section B consisted knowledge questionnaire which consisted of twenty-six items.

2.3 Validity, Reliability of Tool and Pilot study

The content validity of the tool was established with the help of experts form related field. In order to establish the reliability of the tool, it was administered to 10 subjects and calculated using split half method following Karl Pearson's formula. The reliability of knowledge questionnaire (r) was 0.99 which indicated that the tool was highly reliable. Pilot study was conducted on 10 samples having the same sample characteristic. The data obtained were analyzed in terms of the objectives by using descriptive and inferential statistics. After conducting the pilot study, it was found that the study was feasible and researchable.

2.4 Data Collection

Main study was conducted in Hira Girls Public School, Thokkotu, Mangalore by administration of validated questionnaire. Prior to the data collection, permission was obtained from the concerned institution and principal of the school. Informed consent from the participants also was obtained. They were also assured for the confidentiality of the information. Data was collected on 3rd December 2013. The total time duration taken by respondents to complete the questionnaire was one hour. After the data collection procedure, the pamphlets with information on menstrual hygiene were distributed to the participants.

Data was analyzed using descriptive and inferential statistics. Frequency and percentage were calculated for the demographic characteristics of adolescent girls and percentage, mean, standard deviation, median, minimum and maximum score was calculated for the knowledge scores. The knowledge scores were arbitrarily categorized into three categories, i.e., poor when obtained 0 – 13 score, average when obtained 14 – 21 score and good when obtained 22 – 26 score. Chi-square test was calculated to see the association between the selected demographic variables and knowledge scores.

III. Results

3.1 Demographic characteristics of the adolescent girls

Sixty adolescent girls studying in standard seventh to ninth of Hira Girls Public School were taken as sample for the study. Half of adolescent girls were 13 years and the maximum numbers (90%) of them were Muslims. Majority of the adolescent girls (65%) were studying in class seven. Three fourth of the girls were from nuclear family. Most of the girls' fathers were self-employee (41.7%) and majority of girls' mother (81.7%) were house wives. Most of the girls' family income (35%) was above Rs. 10,000. This study also revealed that more than half of the girls (61.7%) had their first menstruation at the age of 12 years. The mean age at first menstruation of participants was 12.52 ± 0.792 years. Maximum number of the girls (88.3%) had previous knowledge regarding menstrual hygiene and the major source of their information was health personnel (76.7%). Detail illustration of demographic characteristics of adolescent girls is presented in Table 1.

3.2 Level of knowledge regarding menstrual hygiene among adolescent girls

The findings disclosed that 46.7% had good knowledge and 48.3% had average knowledge. Minimum girls (5%) had poor knowledge on menstrual hygiene. The mean score of knowledge regarding menstrual hygiene was 20.45 ± 3.022 . The obtained median score was 21. Out of total score of 26, the maximum score obtained by the adolescent girls was 24 and the minimum score was 10. Analysis of area wise knowledge score depicted that adolescent girls had highest mean percentage (89.28%) of knowledge in the area of information on anatomy of female reproductive organs and menstruation. The mean score on information on anatomy of female reproductive organs and menstruation was 6.25 ± 1.216 , minimum score was 2 and maximum score was 7. The information is displayed in Table 2 and 3.

3.3 Association between the level of knowledge and demographic variables

Analysis of the association between the level of knowledge regarding menstrual hygiene among adolescent girls and their selected demographic variables exposed that there was significant association between

the level of knowledge and religion ($p < 0.05$) and mother's occupation ($p < 0.05$). There was no significant association between the level of knowledge related to menstrual hygiene and age, education, family type, occupation of father, family income, age at first menstruation, pre-existing knowledge and source of information ($p > 0.05$). The detail result is presented in Table 4.

IV. Discussion

Menstrual hygiene is crucial in reproductive life of every woman. It is remarkable that poor menstrual hygiene contribute extremely to reproductive and urinary tract infections. Therefore, adolescent girls should have sound knowledge on menstrual hygiene and improve their menstrual hygiene practice. Assessing the knowledge and imparting the knowledge on menstrual hygiene to adolescent girls is one of the essential steps to create the awareness among them.

The findings of the study divulged that the mean age at first menstruation of participants was 12.52 ± 0.79 years. Correspondingly, a study conducted by Thakre SB, Thakre S, Reddy M, Rathi N, Pathak K, Ughade S reported that the mean age at first menstruation was found to be 12.85 years¹¹ whereas it was found to be 13.51 ± 1.04 years in finding of study conducted by Dambhare DG, Wagh SV, Dudhe JY¹⁵. Maximum number of the girls (88.3%) had previous knowledge regarding menstrual hygiene and the major source of their information was health personnel. In the study conducted by Aniebue UU, Aniebue PN, Nwankwo TO mothers were the main source of information (74.7%)¹⁶. This portrayed that mothers, siblings, relatives, teachers, etc are not sufficiently providing the knowledge regarding menstrual hygiene to the girls. Thus, there is the need to educate the mothers, siblings, relatives and teachers regarding menstrual hygiene and motivate them to educate the adolescent girls.

Assessment of the level of knowledge regarding menstrual hygiene among adolescent girls discloses that 46.7% had good knowledge and 48.3% had average knowledge. Minimum girls (5%) had poor knowledge on menstrual hygiene. This finding is supported by the study conducted by Shrestha S, Mondol J and Thapa R which depicted that 18.35% girls had good knowledge about menstrual hygiene, 60% had fair knowledge and 21.67% of them had poor knowledge on menstrual hygiene¹⁷. The mean score of their knowledge was 20.45 ± 3.022 . The maximum score obtained by adolescent girls was 24 and the minimum score was 10. These findings imparted that the adolescent girls has knowledge regarding menstrual hygiene. This result opposes the result of the study conducted by Lawan UM, Yusf WN, Musa BA in which the findings say that the mean score of the school girls' knowledge of menstruation and menstrual hygiene was 8.0 ± 2.1 , with the majority (87.5%) having fair knowledge of the subject¹⁸.

Analysis of area wise knowledge score depicts that adolescent girls had highest mean percentage (89.28%) of knowledge in the area of information on anatomy of female reproductive organs and menstruation. The mean score on information on anatomy of female reproductive organs and menstruation was 6.25 ± 1.216 , minimum score was 2 and maximum score was 7. The result of this study concurred with the result of the study conducted by Thakre SB, Thakre S, Reddy M, Rathi N, Pathak K, Ughade S which revealed that 80.62% of the adolescent girls were not aware of the cause of bleeding, 18.35% were unknown about menstruation as physiological process, 76.23 % of them were not aware of source of bleeding whereas, 76.49% of the girls were aware of the use of sanitary pads¹¹.

Analysis of the association between the level of knowledge regarding menstrual hygiene among adolescent girls and their selected demographic variables reveals that there was significant association between the level of knowledge and religion ($p < 0.05$) and mother's occupation ($p < 0.05$). It was also evident from the study that there was no significant association between the level of knowledge related to menstrual hygiene and age, education, family, occupation of father, family income, age at first menstruation, pre-existing knowledge and source of information ($p > 0.05$). A study conducted by Arunmozhi R, Anitharam P also reported that there was no association between the knowledge level and type of family, religion ($p > 0.05$)¹⁹.

Table 1: Description of Demographic Characteristics of Adolescent Girls

n = 60

Sl. No.	Demographic Variables	Frequency	Percentage
1.	Age in Years		
	a. 13 years	30	50.0
	b. 14 years	19	31.7
	c. 15 years	11	18.3
2.	Religion		
	a. Hindu	5	8.3
	b. Christian	1	1.7
	c. Muslim	54	90.0
3.	Educational Status		
	a. VII th standard	7	11.7
	b. VIII th standard	39	65.0
	c. IX th standard	14	23.3
4.	Type of Family		
	a. Nuclear	45	75.0
	b. Joint	11	18.3
	c. Extended	4	6.7
5.	Occupational of Father		
	a. Government Employee	4	6.7
	b. Private Employee	14	23.3
	c. Self-Employee	25	41.7
	d. Others	17	28.3
6.	Occupational of Mother		
	a. Government Employee	3	5.0
	b. Private Employee	5	8.3
	c. Self-Employee	3	5.0
	d. House wife	49	81.7
7.	Family Income/Month		
	a. < Rs. 1,000	16	26.7
	b. 1,001–5,000	9	15.0
	c. Rs.5,001–10,000	14	23.3
	d. > Rs.10,000	21	35.0
8.	Age at First Menstruation		
	a. 12 years	37	61.7
	b. 13 years	18	30.0
	c. 14 years	2	3.3
	d. Above 14 years	3	5.0
9.	Previous Knowledge on Menstrual Hygiene		
	a. Yes	53	88.3
	b. No	7	11.7
			n = 53
10.	Source of Information		
	a. Mass media	7	11.7
	b. Health personnel	44	76.7
	c. Elders and relatives	1	1.7
	d. Others	1	1.7

Table 2: Mean, median, maximum and minimum scores and standard deviation of knowledge score of adolescent girl's regarding menstrual hygiene n = 60

Total score	Obtained scores				Standard Deviation (SD)
	Maximum	Minimum	Mean (M)	Median	
26	24	10	20.45	21	3.022

Table 3: Area wise mean, mean percentage, maximum and minimum scores and standard deviation of knowledge score of adolescent girls regarding menstrual hygiene n = 60

Sl. No	Areas of knowledge	Total score	Obtained score		Mean score	SD	Mean percentage
			Min. score	Max. score			
1	Information on Anatomy of female reproductive organs and menstruation	7	2	7	6.25	1.216	89.28
2	Menstrual hygiene	12	4	11	9.50	1.513	79.16
3	Nutrition and other care	7	2	7	4.67	0.968	66.71

Table 4: Association between the level knowledge of adolescent girls on menstrual hygiene and selected demographic variables n = 60

Sl. No	Demographic variables	Chi –square (χ^2)	Degrees of freedom (df)	Inference
1	Age	6.101	4	P > 0.05 (NS)
2	Religion	21.648	4	P < 0.05 (S)
3	Educational status	3.528	4	P > 0.05 (NS)
4	Family type	3.228	4	P > 0.05 (NS)
5	Occupation of father	12.360	6	P > 0.05 (NS)
6	Occupation of mother	8.984	6	P < 0.05 (S)
7	Family income	2.681	6	P > 0.05 (NS)
8	Age at first menstruation	9.173	6	P > 0.05 (NS)
9	Pre-existing information	0.632	2	P > 0.05 (NS)
10	Source of information	3.434	8	P > 0.05 (NS)

Key: NS = Not significant, S = Significant

V. Conclusion

The findings of the study illustrated that less than half of the adolescent girls are having good knowledge on menstrual hygiene which indicates that there is still lack of adequate knowledge regarding menstrual hygiene among adolescent girls. Thus, health education programs are required to enhance the knowledge regarding menstrual hygiene to improve their menstrual hygiene practice. The best place to impart the education on menstrual hygiene to adolescent girls is schools. Nursing students, peer groups can be mobilized to conduct these educational programs. The curriculum of the schools also should include the topic on menstruation and menstrual hygiene. School teachers, mothers, siblings and relatives also should be educated on menstrual hygiene and motivated to instruct their daughters to practice good menstrual hygiene practices. In addition to this, further researches should be conducted to cover other schools, areas and different part of the country in terms of knowledge, attitudes and practice on menstrual hygiene.

Acknowledgement

We owe a great deal of gratitude to management of Yenepoya University and Prof. K Shanthakumari, Principal, Yenepoya Nursing College for providing permission, valuable suggestions and motivation for this study and publication. We extend our grateful acknowledgment to the Principal of Hira Girls Public School, Mangalore for giving us permission to conduct the study. We extend our gratitude to all the participants of the study for their enthusiasm and cooperation. We are grateful to those who have supported and motivated for the study and publication.

REFERENCES

- [1] Terri K. *Essentials of Pediatric Nursing* (India: Wolter Kluwer Publisher, 2008)
- [2] Dawn CS. *Textbook of Obstetrics Neonatology and Reproductive and Child health education* (Kolkata: Dawn books publishers, 2004)
- [3] Jacob A. *A Comprehensive Textbook of Midwifery* (New Delhi: Jaypee Publications, 2008)
- [4] Johnson Jo. What is Personal Hygiene? Hygiene Expert U.K; 2013 Dec 9. Available from: www.hygieneexpert.co.uk/whatispersonalhygiene.html
- [5] Kumar A, Srivastava K. Cultural and social practices regarding menstruation among adolescent girls. *Journal of Social work in public health*. 26(6), 2011 Sep, 594-604.
- [6] Rembeck G.I, Moller. M. Attitudes and feelings towards menstruation and womanhood in girls at menarche. *Journal of pediatrics*. 8 (95), 2006, 222-228.
- [7] Integrating menstrual hygiene management into aid programming. 2012 Dec 19. Available from: www.irinnews.org/.../aid-policy-integrating-menstrualhygiene
- [8] Times of India. New Delhi. 2011 Jan 23; Available from: <http://www.indiantimes.com>
- [9] Grandi GF, Ferrari S, Cannoletta M. Prevalence of menstrual pain in young women: What is dysmenorrhea. *Journal of pain research*. 5(3), 2012 Jun, 169-174.
- [10] Salve SB, Dase RK, Mahajan SM. Assessment of knowledge and practices about menstrual hygiene amongst rural and urban adolescent girls. *Int J of recent trends in science and technology*. 3(3), 2012, 65-70.
- [11] Thakre SB, Thakare S, Reddy M, Rakhi N, Pathak K, Ughade S. Menstrual hygiene knowledge and practice among adolescent school girls of saoner. *Journal of Clinical and Diagnostic Research*. 5(5), 2011 oct, 1027-1033.
- [12] Theres M, Maria F. Menstrual hygiene in South Asia a neglected issue for WASH programmes. *A Water Aid report Nepal Gender and development*; 18(1), 2010.
- [13] Dhingra R, Kumar A. Knowledge and practices related to menstruation among tribal adolescent girls. *Ethno Med J*. 3(1), 2009, 43-48.
- [14] Fakhri M, Zeinab H, and Abdulhay K. Promoting menstrual hygiene among Persian adolescent girls from low socio economic background: a quasi-experimental study. *BMC Public Health*. 12:193, 2012. Available from: www.biomedcentral.com/1471-2458/12/193
- [15] Dambhare DG, Wagh SV, Dudhe JY. Age at menarche and menstrual cycle pattern among school adolescent girls in central India. *Global Journal Health Sci*. 4(1), 2012 Jan, 105-11.
- [16] Aniebue UU, Aniebu PN, Nwankwo TO. The impact of pre- menarcheal training on menstrual practices and hygiene of Nigerian school girls. *Pan African Medical Journal*. 2(9), 2009, 27-36.
- [17] Sherestha S, Jaita M, Rajaina T. Knowledge attitude and practices towards menstrual hygiene among adolescent girls. *International Journal of nursing education* 5(11), 2013, 221-27.
- [18] Lawan UM, Yusuf WN, Musa BA. Menstruation and Menstrual Hygiene amongst Adolescent School Girls in Kano North-western Nigeria. *Afr. J. Reprod. Health*. 14(3), 2010 Sept, 201-207.
- [19] Arunmozhi R, Anitharam P. A cross sectional study to assess the levels of knowledge practices of menstrual hygiene among adolescent girls in Chennai. *E- Journal of Med*, 3(1), 2013, 211-217.