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A School Survey to Assess Menstrual Hygiene Practices Among Teenage Girls in Chennai, India

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Abstract: An Urban Government Girls Higher Secondary School was selected to determine Students Knowledge on Menstruation and Menstrual Hygiene with Practices. An Intervention of 'Health Education' for eleventh standard Students were provided, then interviewed using Structured Questionnaire and assessed at two time points. *Results:* A total of 425 students with a mean±SE age of 15.7±0.21 years (range15-16 years) participated and for one hundred and thirty four (31.5)girls, first informant about Menstruation were the Elder sisters. Students did not have 'adequate knowledge' before Health Education and Three hundred and forty two (80.5) felt that irregular menstruation had occurred due to Stress in Family. McNemar's test showed a Statistically Significant major shift in proportion of students from 26.0 to 98.0 (P=0.000) for correct response about menstruation and menstrual hygiene. We also observed changes in the practice of overcoming the restrictions (myths) regarding participation in Household work, mingling with other students, attending schools and exams. *Conclusion:* Audio Visual mode of Health Education on Menstrual hygiene had improved the knowledge among the students. Adequate education on Menstrual Hygiene will help the younger generations to prevent gynecological problems in their reproductive span.

Key words: Reproductive health · Health Education · Waste management · School Survey

INTRODUCTION

The Oppression of Women has its effect on issues concerning reproductive health and other issues related to the reproductive system and its functions and processes, even though there are differences by country, culture, ethnic group, social class or family. Most striking is the restricted control, which many girls have over their own mobility and behaviour during menstruation due to their 'impurity' during menstruation, including the myths, misconceptions, superstitions and (cultural and /or religious) taboos concerning menstrual blood and menstrual hygiene. Remarkable is also that the education by parents concerning reproductive health, sexuality and all related issues is considered almost everywhere as a "no-go" area. Menstrual hygiene also has an environmental impact, in the form of a growing waste problem [1]. For example, respondents in a survey by Water Aid in Bangladesh reported health problems such as vaginal scabies, abnormal discharge and urinary infections and associated these with menstrual hygiene [2]. This highlights a need for robust scientific research, in order to better understand the impact of poor menstrual hygiene on health.

Rationale: Menstrual hygiene (MH) is a very important factor concerned with reproductive tract infections and is a vital aspect of health education for adolescent girls.

This study was approved by the Research and Ethical Committee of our Institution.

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Objective: To estimate the level of knowledge and menstrual hygiene practiced among the School girls aged (15-16 years) in Chennai, India.

MATERIALS AND METHODS

Design: Educational Intervention Study.

Place: Government Higher Secondary School in Chennai, India.

Participants: The students aged (15-16) years in eleventh standard.

Period: January 2012 to October 2012.

Sampling Technique: Balanced Panel Sampling [3], Two Government Higher Secondary Schools from the Urban area were chosen. All students from the randomly selected School were included in the study with the written informed consent from their parents.

Sample Size: 33.82% of girls who didn't perform household work during menstruation, the minimum required sample size was estimated to be 225 with 5% Type I error, limit of accuracy of 20% and an attrition of 20%. Frees [4].

Methodology: Students knowledge were assessed before and after Health Education by experienced Professional over an interval of 8 months.

Intervention: Health Education (HE) on Menstrual Hygiene[Audio-Visual(Power Point presentation)] by an experienced Female Asst. Professor in Dermatology for nearly 45mts

Material: A structured Questionnaire, Rao, PSSS [5] with Demographic and 17 items assessing knowledge and Practice on Menstruation and Menstrual Hygiene with a closed and open type response was used.

Statistical Analysis: The baseline and MH information were analyzed using (SPSS 15.0) [6]. The Score "0" was assigned to the girls who had "no change" and "1" for "with change" in the 'knowledge level and their practices' before and after HE and the results are presented as frequency, percentage along with inferential tests Chi Square and McNemars Chi-Square [7] at 5% level of significance. The values within parentheses represent percentage.

RESULTS

The present study had 425girls with a majority 322(75.8) hindus followed by Christians 73(17.2) and Muslims 28(6.6) with 110(25.9) from joint family and 102(24.0) were from the family with PCI/month above ?5000. The highest level of education of their parents were considered for analysis. Table 1 shows the descriptive statistics for baseline characteristics.

Before HE: One hundred and twenty nine (30.3) parents had education above higher secondary and did not contribute much to the knowledge of MH to their children. Two hundred and twenty four (52.7) had Elder Sisters and only 134(31.5) had acquired knowledge from them as seen in Fig 1 were the main source of information, when compared to 220(51.7) girls with brothers, had poor knowledge about MH. Three hundred and fifteen (74.1) were on mixed diet and their knowledge regarding dietary nutrition related to menstruation was not adequate. Table 2 and Table 3 shows the descriptive statistics related to MH and practices during menstruation. 229(53.8) thought menstruation was a Curse from God caused by a Sin / Disease and nearly 20 percent had irregular menstruation and 287(67.6) felt it was due to stress in family and school. Out of 157(36.9) who used reusable cloth, 108(68.8) did not dry those clothes in Sunlight. 219(51.5) were changing their cloth/pad every (4-5) hours and a majority 279(65.7) were using soap and water, antiseptics for cleaning their genital. Nearly 157(36.9) were reusing the cloth and 123(78.3) of them were using plain water for washing purpose and 215(50.6) were disposing the used sanitary pad into an open dustbin. We also observed 128(30.1) were absent to school during the days of menstruation and 365(85.9) were not allowed to do household works.

After HE: There was change in the knowledge regarding menstruation among four hundred and nine (96.2). The McNemar-Bowker=124.7(P=0.000) test showed a statistically significant χ^2 =27.3 (P=0.000) difference in the proportion of knowledge (26% to 98%) acquired by the girls. From Fig 2, we could observe a decrease in the restrictions from the daily routine work and it was found to be statistically significant. Four hundred and thirteen (97.2) had regular menstruation once in (25-28) days and eighty seven (20.5) girls with irregular menstrual cycle were given special attention and finally after 6 months we could regularize their menstrual cycle for 75(17.6). Nearly three hundred and forty two (80.5) felt that irregular menstruation has occurred due to Stress in Family.

Table 1: Descriptive Statistics for DEMOGRAPHIC information

Variables	N (%)	Variables	N (%)
1. Religion - Hindu	322(75.8)	4. Number of Brothers - 0	205(48.2)
Muslim	28 (6.6)	1	190(44.7)
Christian	73(17.2)	2	30(7.0)
Others	2(0.4)		
2. Parent Education - Illiterate	164(38.6)		
Primary	62(14.6)	5. Number of Elders Sisters -0	201(47.3)
Secondary	70(16.5)	1	169(39.8)
Higher Secondary	110(25.8)	2	55(12.9)
Tertiary	19(4.5)		
3. PCI/month (BG Prasad 2011)			
≥ 5000	102(24.0)	6. Family Type - Nuclear	315(74.1)
2001 – 5000	115(27.1)	Joint	110(25.9)
1251 – 2000	147(34.6)		
1000 – 1250	36(8.5)	7. Diet - Vegetarian	113(26.5)
< 1000	25(5.8)	Mixed	312(73.4)

Table 2: Descriptive Statistics related to MENSTRUAL HYGIENE

Parameters on Menstruation	Before Health Education N(%)	After Health Education N(%)
1. Feeling about their first Menstruation		
- Normal process takes place in the body	114(26.8)	409(96.2)
- A Curse from God caused by a Sin / Disease	229(53.8)	16(3.8)
- Others	82(19.4)	0
2. Average Menstrual Cycle - Regular	338(79.5)	413(97.2)
Irregular	87(20.5)	12(2.8)
3. Regular menstruation-		
Once in 25days	305(71.8)	294(69.2)
Once in 28days	17(4.0)	119(28.0)
Once in 30days	16(3.7)	12(2.8)
4. Irregular menstruation is due to -		
Physiological	102(24.0)	32(7.5)
Stress in family	200(47.1)	342(80.5)
Stress in School	87(20.5)	49(11.5)
Others	36(8.5)	2(0.5)

Table 3: Descriptive Statistics for PRACTICES DURING MENSTRUATION

Practices During Menstruation	Before Health Education N (%)	After Health Education N (%)
1. Sanitary protection used - Disposable Sanitary Pad	268(63.1)	403(94.8)
ReusableCloth	157(36.9)	22(5.2)
13.Change of Sanitary pad/cloth - Every 3 hours	91(21.4)	258(60.7)
Every 4 hours	115(27.1)	101(23.8)
Every 5 hours	219(51.5)	66(15.5)
14.The genital area is cleaned using - Plain water	54(12.7)	264(62.1)
Luke warm water	92(21.6)	105(24.7)
Soap and water	248(58.4)	56(13.2)
Antiseptics	31(7.3)	0(0.0)
15. Reuse of the cloth - Yes	137(32.2)	5(1.2)
Sometimes	20(4.7)	103(24.2)
No	268(63.1)	317(74.6)
16.The reused cloth is washed using - Plain water	123(78.3)	11(7.0)
Luke warm water	0(0.0)	0(0.0)
Soap and water	27(17.2)	116(73.9)
Antiseptics	7(4.5)	30(19.1)
17. Ways of Disposal of Sanitary pad / cloth		
- Wrap and dispose into an open dustbin	215(50.6)	21(4.9)
- Wrap and dispose into a closed waste bin	96(22.6)	402(94.6)
- Dispose directly into a Sanitary latrine	73(17.2)	2(0.5)
- Dispose into a well/lake	41(9.6)	0(0.0)

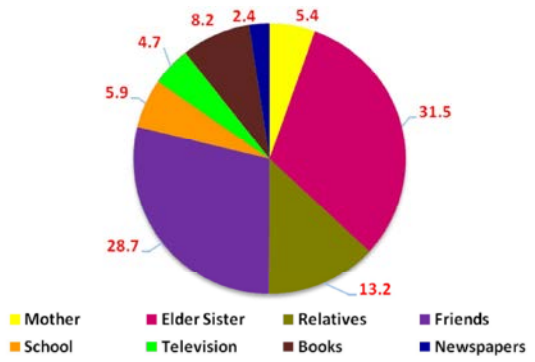

Fig. 1: Source of Information on Menstrual Hygiene (%)

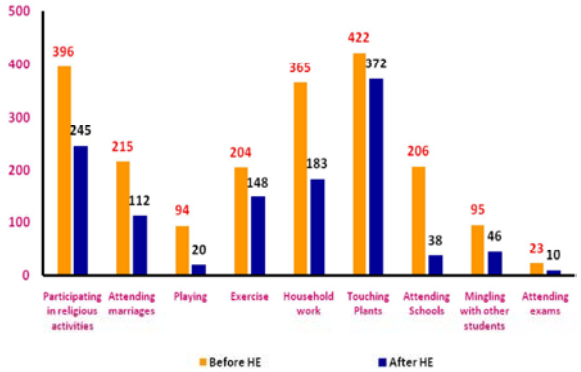

Fig. 2: Restriction from Routine Work during Menstruation (N)

PRE - TEST HEALTH EDUCATION POST - TEST

One hundred and thirty five (31.7) who were using the clothes during menstruation had changed to disposable sanitary pad. One hundred and sixty seven (39.3) had been changing the sanitary pad/cloth every 3hours and 146(34.4) had used soap and water, antiseptics to wash the reused clothes and dried it in sunlight. Three hundred and sixty nine (86.8) cleaned their genital area with plain and Luke warm water during menstruation. Four hundred and two (94.6) were disposing their used sanitary pad/cloth after wrapping it into a closed waste bin. The Chi Square value (P=0.000) showed, there existed a statistically significant changes in the practice of overcoming the restrictions (myths) regarding participation in Household work, mingling with other students, attending schools, exams, marriages, playing and physical exercise.

DISCUSSION AND CONCLUSION

In our study, the mean age at menarche of respondents were 12.7years whereas in a study conducted in Rajasthan by Khanna *et al*. [8], the mean age at menarche was found to be 13.2 years. The Students of those Parent with tertiary education (10.0) had better knowledge than others. Juyal *et al*. [9] highlighted that Issues associated with menstruation were never discussed openly and this burdens young girls by keeping them ignorant of this biological function. Rupali Patel, Sanjay Kubde [10] observed lack of knowledge and poor personal hygienic practices could lead to various gynecological problems including reproductive tract infections. The Forum for African Women Educationalists (FAWE) in Uganda observes that menstruation is the most important factor affecting School dropout among girls and it was similar in the present study with a combination of poverty, local customs, cultural traditions and taboos. According to Bharadwaj and Patkar (2004) an average woman throws away 125 to 150kgs of tampons, pads and applicators in her lifetime. The great majority of these end up in landfill, or as something the sewage treatment plants must deal with. In developing countries, which frequently have poor waste management infrastructure, menstrual waste will certainly produce larger problems. For this reason, encouraging menstrual hygiene in developing countries must be accompanied with calculated waste management strategies. From research by the Iranian government, in cooperation with the University of Teheran it becomes clear that 15% of girls between the age of 15 and 18years do not attend school 1 too 7days per month because of menstruation related problems. Dakshayani Devi K, Venkata Ramaiah P [11] suggested that the girls should be educated about the significance of menstruation and development of secondary sexual characteristics, selection of a sanitary menstrual absorbent and its proper disposal. Lack of privacy is an important problem. In resource poor contexts, where women do not have access to basic facilities such as water, bathroom and privacy, the standard of hygiene one can maintain is severely compromised. www.unicef [12] found that increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women. We also suggest to organize workshops to facilitate discussion in which girls and women feel free to talk about issues such as menstruation and MH without any inhibitions.

REFERENCES

1. Dr. Varina, T. and jon A. Ten, 2007. Menstrual Hygiene: A Neglected Condition for the Achievement of Several Millennium Development Goals, Zoetermeer, 10 October 2007, pp: 6.
2. Ahmed, R. and K. Yesmin, 2008. 'Menstrual hygiene: breaking the silence', in Wicken *et al*., (eds.) Beyond Construction Use By All, IRC International Water and Sanitation Centre and Water Aid, pp: 3-4.
3. Hsiao, Cheng, 2003. Analysis of Panel Data, Cambridge University Press.
4. Frees, E., 2004. Longitudinal and Panel Data, University Press
5. Rao, P.S.S. Sundar, 2012. Richard, Introduction to Biostatistics and Research methods 5thed, Jan 2012.
6. www.spss.com.
7. Visweswara Rao, K., 2010. Biostatistics in Brief made easy, 1st ed., Jaypee Brothers med pub(P) LTD, pp: 258-269.
8. Khanna, A., R.S. Goyal and R. Bhawsar, 2005. Menstrual practices and reproductive problems: a study of adolescent girls in Rajasthan. J. Health Manag., 7: 91-107.
9. Ruchi Juyal, S., D. Kandpal, Jayanti Semwal and K.S. Negi, 2012. Practices of menstrual hygiene among adolescent girls in a district of Uttarakand, Indian Journal of Community Health, vol. 24, no. 2, April 2012-June 12-128.

10. Rupali Patel and Sanjay Kubde, 2014. Comparative study on menstrual hygiene in rural and urban adolescent, International Journal of Medical Science and Public Health, 3(2): 129-132.
11. Dakshayani Devi, K. and P. Venkata Ramaiah, 1994. Study on menstrual hygiene among rural adolescent girls, Indian Journal of Medical Sciences, 48(6): 139-143.
12. www.unicef.org, Indian ministry of rural development, 2008. Sharing simple facts: A guidance book on menstrual hygiene management.