



A CROSS-SECTIONAL STUDY OF MENSTRUAL HYGIENE KNOWLEDGE AND PRACTICES AMONG ADOLESCENT GIRLS FROM TRIBAL COMMUNITIES IN TAMIL NADU'S SOUTH-EASTERN REGION.

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ABSTRACT

Background: Adolescents are defined as young people aged 10 to 19 by the World Health Organization. Adolescents account for approximately 16% of the global population. Adolescence is the transition period from infancy to adulthood. It is a critical and sensitive time in the human life cycle. Many changes occur during this adolescent period, including physical, mental, and social development. Menstruation and hygiene knowledge among adolescent girls is woefully lacking. As a result of the lack of proper guidance and support regarding proper menstrual hygiene practices, they experience intense mental stress. **Methodology:** The community-based research was carried out in Primary Health Centre in Sothern part of Tamil Nadu, and India. Multi-stage sampling was used to achieve the sample size. Salem District was chosen through simple random sampling. The respective blocks, primary health centers, and sub-centers were chosen through a lottery system. The results showed that 51.34 % of the girls had a good knowledge and practice about menstrual hygiene and 20.77% had good knowledge but poor practice. 96.3% of girls were aware of the best sanitary material to use during menstruation and 93.7% followed it. 47.5% of girls were aware that they should change their pads 4-6 times per day but 28.3% practised it. 98.4% were aware of proper pad disposal but 94.4% practised it. Adolescent girls who lived in joint families had good menstrual hygiene practices. **Conclusion& recommendations:** Educational interventions can bring about significant changes in less-discussed topics such as menstruation. Better hygiene practices can be adopted through social marketing (the distribution of low-cost sanitary pads). Safe hygiene and sanitary practices should be included in the school curriculum, as should improve communication between adolescent girls, their teachers and mothers. Adolescent girls have to be encouraged to attend regular awareness programs at Primary Health Centers and adolescent clinics.

KEYWORDS

Menstrual hygiene, Tribal health, Adolescent health, Menstrual hygiene practices, Menstrual hygiene knowledge

INTRODUCTION

The term adolescence is derived from a Latin sense meaning "to grow to maturity".¹ World Health Organization defines adolescents as young people between 10 and 19 years of age.² Around 16% of the world's population is adolescents.³ Transition period from childhood to adult life is termed "adolescents". It is an important sensitive period in the human life cycle. Many developments like physical, mental, and social development occur during this adolescent period.⁴ Currently, one in every five people on the earth is an adolescent and 85% of these live in developing countries. In India, 20.07% of the total population is adolescents.⁵

Menstruation is a vital change that happens in a teenage girl.⁶ Menstruation begins with menarche and ends in a Midlife crisis. Menstruation is a regular cyclical process that occurs throughout the childbearing period except for pregnancy and lactation. It is a physiological process that occurs in girls. Every girl must know about the changes that occur during menstruation. Menstrual hygiene-related practices are still clouded by socio-cultural restrictions, and taboos in India.⁴ Misunderstanding and malpractices about menstrual hygiene could result in undesirable health problems like reproductive tract infection and urinary tract infection.⁷

Knowledge about menstruation and its hygiene among teenage girls is grossly insufficient. Various restrictions are forced on adolescent girls during the menstruation period. These restrictions have reinforced negative attitudes in the minds of adolescent girls. Several studies have reported these restrictions which include restrictions on going to school, play, work, religious holy places, and also dietary restrictions.

Adolescents are hesitant to seek help during the menstrual period from parents, friends, and health care providers, which in turn leads to ignorance of hygienic menstrual practices among adolescent girls.⁶

Adult girls are at risk of many diseases due to poor personal sanitation. A common etiology of gynecological diseases is poor personal hygienic practices during menstruation. There is an inter-relationship between socioeconomic status, menstrual hygiene practices, and reproductive tract infection. Reproductive tract infections lead to an increased incidence of cervical cancer. Also, it leads to an increased incidence of HIV/AIDS, infertility, ectopic pregnancy, and a myriad of other symptoms.⁸

As a result, they suffer intense mental stress due to a lack of proper guidance and support regarding proper menstrual hygiene practices.⁷ Health needs of adolescent girls have seldom been addressed adequately. The majority of girls acquire knowledge about menstruation and menstrual hygiene mostly through their parents, relatives, and friends. Knowledge about menstrual hygiene and its practices plays a vital part in health education for adolescent girls.^{9,10} Safe menstrual hygiene practices will avoid the risk of RTI and its consequences. This would lead to improvement in adolescent health and maternal health in the future.

Although many studies had been done on reported menstrual practices among adolescent girls in India, very few were conducted among those who belong to the most backward classes, scheduled caste, and scheduled tribes. Hence, the present study is done

OBJECTIVES OF THE STUDY:

1. to study the socio-demographic profile among tribal adolescent girls in the Sothern part of Tamil Nadu.
2. to assess the menstrual hygiene knowledge and practices& their association among the same study population.
3. to study the reach and impact of the Tamil Nadu free sanitary napkins scheme.

MATERIALANDMETHODS

Our community-based cross-sectional study was conducted to study the menstrual hygiene practices alongside the factors influencing it among tribal adolescent girls in the South Eastern part of Tamil Nadu. The community-based research was carried out in the Primary Health Centers in South Eastern part of Tamil Nadu. The timeline of the study is from August 2018 to July 2019. The study's respondents were tribal adolescent girls aged 10 to 19 years.

Sample size: The sample size was calculated to be 520 and found adequate, taking into account a prevalence of menstrual hygiene practices of 20% (11) from previously published studies, relative precision of 20%, and 5% non-response. Multi-stage sampling was used to achieve the sample size. South Eastern part of Tamil Nadu was chosen through simple random sampling. The respective blocks, primary health centers, and sub-centers were selected through a lottery system. Finally, 1194 adolescent girls were registered in the respective Anganwadi center. A random number table was used to select 520 respondents using simple random sampling. When two respondents from the same house were chosen for the study, both were chosen.

Inclusion criteria: 1) Adolescent girls in the age group of 10-19 years who attained menarche. 2) Having at least three regular menstrual cycles.

Exclusion criteria: 1) Adolescent girls in the age group of 10 – 19 years those who had not attained the menarche. 2) Adolescent girls who have psychological problems. 3) Adolescent girls who are seriously ill. 4) Teenage girls who are not able to contact for 3 consecutive visits.

The information was gathered from those who met the inclusion criteria. If the study participants were over the age of eighteen, the study subject provided written informed consent, and if the study participants were under the age of eighteen, their parents provided written informed consent. The data was gathered through an interview method using a semi-structured questionnaire in the local language.

Statistical Analysis: Data was entered in MS Excel and analyzed using the Statistical Package for Social Sciences (SPSS) Version 16. Descriptive statistics such as Mean / Median and Standard Deviation were employed to describe continuous variables, while frequency distributions were obtained for dichotomous variables. Association between qualitative variables was done using the Chi-square test. We used a 95% confidence interval. A p-value of less than or equal to 0.05 has been considered to be significant.

Ethics approval: After obtaining permission from the Head of the Department, Department of Community Medicine and the Dean, Stanley Medical College, Directorate of Public Health and Preventive Medicine (DPH), Deputy Director of Health Services (DDHS) of Salem district, and approval from the Institutional Ethics Committee, data was collected in the study area. All study participants received health education on proper menstrual hygiene practices.

RESULTS

A total of 520 tribal adolescent girls in the age group of 10-19 years were interviewed for the study. Table 1 depicts the socio demographic attributes of the study participants.

I. Socio demographic details:

The mean age of the study participants is 15.10 ±1.6 years. All of them were literates. Majority of the study participants 264 (50.8%) had completed up to high school. Majority of the study participants 329 (63.3%) were middle-class socio-economic status. Most of the study participants 504 (96.9%) were unmarried. Nuclear type of families was a majority. Out of the 520 adolescent girls, 489 adolescent girls (94%) attained menarche between the age group of 10 – 14 years. Majority of the adolescent girls 414 (79.6%) had regular menstrual cycles. (Table 1)

Table 1: Socio-demographic details of the respondents of the study from the South Eastern part of Tamil Nadu.

Socio-demographic characteristics	Categories	Number of study participants n = 520 (%)
Age (years)		
	10-14 years	225 (43.2%)
	15-19 years	295 (56.8%)
Education		
	Middle school	101 (19.4%)

	High school	264 (50.8%)
	Higher secondary	146 (28.1%)
	Post graduate/degree	9 (1.7%)
Socio-economic status		
	Upper middle	97 (18.7%)
	Middle	329 (63.3%)
	Lower middle	94 (18%)
Marital Status		
	Married	16 (3.1%)
	Unmarried	504 (96.9%)
Type of family		
	Nuclear	385 (74.1%)
	Joint	135 (25.9%)
Menarche attained (age in years)		
	10 – 14	489 (94%)
	15 – 19	31 (6%)
Menstrual cycle pattern		
	Regular	414 (79.6%)
	Irregular	106 (20.4%)

The study area being a tribal population, the per capita income classification of Modified BG Prasad scale was used to arrive at the socio-economic status. Using the Consumer Price Index (Industrial Worker) for the month of November 2018, which was 302, the Modified BG Prasad Classification was updated (annexure). Majority of the study participants belongs to lower middle classes 260 (65%) while only 0.3 % of the study participants belong to the upper class as per modified BG Prasad Classification. (Table 1)

Table 2: knowledge about menstruation among study participants of the study from South Eastern part of Tamil Nadu.

S. No	Correct knowledge about menstruation	Number of study participants n=520 (%)
1	The cause for menstrual bleeding	453 (87.1%)
2	Cleaning the genitalia during menstruation	507(97.5%)
3	Origin of menstrual blood	501 (96.3%)
4	Sanitary material used during menstruation	497 (96.3%)
5	Frequency of changing pad 4 – 6 times per day	247 (47.5%)
6	Pad disposal techniques	512 (98.4%)

In the study, (453) 87.1% of the study participants had correct knowledge that menstrual bleeding was physiological. Knowledge about cleaning genitalia during menstruation (507) 97.5% of the adolescent girls. About 247 (47.5%) adolescent girls had the knowledge about changing the sanitary pad 4 - 6 times per day. About (512) 98.4% of the adolescent girls had correct knowledge about the ways of disposal and adopted burning as the method of disposal. (Table 2)

Table 3. Correct menstrual practices of the study participants of the study from the tribal population of South Eastern Part of Tamil Nadu.

Correct menstrual practices	Number of study participants n = 520 (%)
Sanitary material used during menstruation	487 (93.7%)
Frequency of changing pads every 4 -6 hours	147 (28.3%)
Disposal of pad	491 (94.4%)
Not reusing pads	520 (100%)
Using combination techniques	58 (11.2%)
Cleaning every time after urination/ defecation	73 (18.3%)
Bathing daily during menstruation	520 (100%)
Daily changing undergarments	520 (100%)
Cleaning genitalia regularly	520 (100%)
Cleaning with soap and water	355 (68.3%)

Out of the 520 adolescent girls, 487 (93.7%) girls were using sanitary material currently. The regularity of changing pads every 4 to 6 hours was seen in 147(28.3%), disposable pads were used by 491(94.4%), all the subjects whoever participated are not using reusable pads 520 (100%). Few of the subjects are using combination techniques 58(11.2%). 73(18.3%) are cleaning every time after urination and defecation. All the participated subjects are bathing and changing

undergarments daily 520(100%). 355(68.3%) of the adolescent girls are cleaning with soap and water. (Table 3)

Table 4: Association between knowledge score and practice score of the study from the tribal population South Eastern part of Tamil Nadu.

Knowledge Score	Practice score		Total	Chi-square	df	p value
	Good	Poor				
Good	267	108	375	3.85	1	0.04* (S)
Poor	110	65	175			
Total	377	173	550			

* p value < 0.05 will be considered significant (S)

Among the study participants, those who had good knowledge on menstrual hygiene had good menstrual hygiene practices also which is statically significant.

DISCUSSION

In the present study when the participants were asked about menstruation, 87.1% of girls on an average had good knowledge about menstruation. Nearly, 96.3% of girls knew about the sanitary material ideally used during menstruation, 47.5 % knew about the frequency of changing the pad per day as 4-6 times and 98.4% girls had good knowledge about the disposal of pads. According to a study conducted in Belgaum by Pokhrel et al, 52.1% of participants knew that menstruation was physiological, 56.4% used sanitary pads, 13.2% changed pads 4 - 6 times per day, and 19.8% burned them. In comparison to the Belgaum study, our study shows higher knowledge and practice scores. This could be attributed to the VHNSC (Village Health Nutrition and Sanitation Campaign) conducted monthly by the PHC Medical Officer and field workers.¹²

Adrija et al proposed in their Kolkata study that 54% of respondents knew bleeding were physiological and 92% used sanitary pads. The sanitary pads knowledge corresponds to our study. It's worth noting that nearly 40% of respondents clean their genitalia after using the restroom or during menstruation.¹³ Another paper by Ahamad et al in Lucknow quoted that 90.9 % of girls clean their genitals after urinating during menstruation.¹⁴ This practice was observed in only 18.3% of the participants in our study. This could be improved by including it as a topic of discussion at VHNSC meetings and in school health programs such as Rashtriya Bal Swasthiya Karyakram (RBSK).

Shah et al. (2013) conducted a study on menstrual hygiene among tribal adolescent girls in rural Gujarat finding that 32% of the girls used sanitary pads instead of cloth after an intervention.¹⁵ Because our baseline sanitary pad usage awareness was 96.3%, our study demonstrates the effectiveness of community-based intervention programs.

Rustogi et al. conducted a systematic review of interventions to improve menstrual health and the challenges they encountered. These interventions, such as demonstrations, lectures, discussions, and the distribution of sanitary pads and soaps, as proposed by him, have improved menstrual hygiene in most places.¹⁶ When compared to other studies, good menstrual hygiene practices among tribal adolescent girls are undoubtedly a result of associated health programs such as RBSK, VHNSC, and RMNCH + A.

SUMMARY AND CONCLUSION

In the current study, 93.7% of adolescent girls used sanitary pads. Adolescent girls who lived in joint families had good menstrual hygiene practices. Positive study results also showed that those with good knowledge of menstrual hygiene practiced proper menstrual hygiene. In addition, the study found that girls with higher educational status had better menstrual hygiene practices. A health education program focused on menstrual hygiene practices will result in significant improvements in menstrual hygiene practices. To alleviate the sufferings of adolescent girls, menstrual health issues should be addressed at a younger age of 13, 14, or 15 years, as this ensures the girls' health, which is regarded as an indicator of a healthy society. Menstruation, for example, can benefit greatly from educational intervention.

RECOMMENDATIONS

Good hygienic practices can be adopted through social marketing (the distribution of low-cost sanitary pads). Safe hygiene and sanitary practices should be included in the school curriculum, as should

improve communication between adolescent girls and their teachers and mothers. This will resolve the myths around menstruation. Adolescent girls will be encouraged to attend regular awareness programs at Primary Health Centers and adolescent clinics. Further research involving teacher-led education on menstrual hygiene can be conducted to improve adolescent girls' knowledge. For the improvement of adolescent health, various departments such as Education, Health and Family Welfare, Social Welfare, Human Resource Development, and Women and Child Development should collaborate.

LIMITATION OF THE STUDY:

In the present study, the teachers are not included and teacher-led intervention measures are not studied. We did not study the associated gynecological problems related to menstruation. The study area is limited to Primary Health Centers of South Eastern Part of Tamil Nadu.

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