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## A Cross-Sectional Study of Menstrual Hygiene and Related Personal Hygiene Practices among Adolescent Girls in an Urban Community of Thoothukudi, Tamil Nadu, India.

N Sabari Raja<sup>1</sup>, Ashwini Madeshan<sup>2\*</sup>, and M Kalaivani<sup>3</sup>.

<sup>1</sup>Assistant Professor, Department of Community Medicine, Government Thoothukudi Medical College, Thoothukudi, Tamil Nadu, India.

<sup>2</sup>Senior Resident, Department of Community Medicine, Kodagu Institute of Medical Sciences, Madikeri, Karnataka, India.

<sup>3</sup>Final year MBBS Student, Government Thoothukudi Medical College, Thoothukudi, Tamil Nadu, India.

### ABSTRACT

Adolescence in girls has been recognized as a special period that signifies the transition from girlhood to womanhood. Proper menstrual hygiene is essential for health and dignity of women. Objectives of the study is to assess the knowledge and menstrual hygiene practices among adolescent girls and to assess the restrictions practiced by adolescent girls during menstruation. A cross-sectional study was conducted among 150 adolescent girls from 5 Anganwadi centers of Therespuram. A Self-administered, semi-structured questionnaire was used and data was analyzed. Majority of the adolescent girls 91(60.6%) had attained their menarche between 12-14 years followed by, 38(25.3%) <12 years, and 21(14.0%) attained at >14 years. Around 130(86.7%) were using sanitary pads as absorbents, followed by 15(10%) using cloths, and 5(3.3%) using both. About 113(75.3%) did not know about menarche before attaining puberty while the remaining 37(24.7%) were aware of it. The majority of the restrictions practiced during menstruation were not attending religious functions 65(43.3%). Most of the girls were aware of sanitary pads and were using them. The hygiene practices were satisfactory among the study population, but knowledge regarding menstruation was inadequate. All girls had restrictions during menstruation.

**Keywords:** Adolescent girls, Menarche, Menstrual knowledge, Hygiene practices

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*\*Corresponding author*

## INTRODUCTION

World Health Organization (WHO) has defined Adolescence as the period between 10-19 years of life [1]. Adolescence in girls has been recognized as a special period that signifies the transition from girlhood to womanhood [2]. Menstruation is a normal biological process experienced by all women from the onset of their puberty till menopause, except during the period of pregnancy. Proper menstrual hygiene is essential for health, empowerment, education and for maintaining the dignity of women [3].

Social prohibitions and strong bondage with the taboos and traditional beliefs during menstruation and hesitation of parents not discussing the related issues openly to their adolescent daughters has blocked the access to get the right kind of information regarding menstrual hygiene [4]. Menstruation is generally considered unclean in Indian society. Isolation of the menstruating girls and restrictions being imposed on them in the family has reinforced a negative attitude towards this phenomenon [5]. Hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI).[6] Women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences [7].

Hence this study is undertaken among adolescent girls in an urban community of Thoothukudi to study the knowledge, status of hygiene, and restrictions practiced by them during menstruation.

## MATERIALS AND METHODS

A community-based, descriptive cross-sectional study was conducted in the urban field practice area of Therapuram Urban Health and Training Center (UHTC) attached to the Department of Community Medicine of Government Thoothukudi Medical College from October to December 2019. By Simple Random Sampling technique, five Anganwadi centers attached to the UHTC were chosen and all the adolescent girls enrolled in those 5 Anganwadi centers of the 5 sectors of the UHTC and who fit the Inclusion criteria were included in the study. A complete enumeration of 5 Anganwadi centers was done and 150 adolescent girls were attained. The data was collected by calling all the adolescent girls enrolled in the AWC on a particular day.

### Inclusion Criteria

Unmarried, non-pregnant, non-lactating adolescent girls of age 10-19 years.

### Exclusion Criteria

Those who were not willing to participate in the study, married, pregnant, lactating adolescent girls were excluded from the study.

### Data Collection Tools

Data was collected using a self-administered, pre-designed, pre-tested, semi-structured questionnaire in the local language Tamil, after obtaining ethical clearance and informed consent. Confidentiality was assured and privacy was maintained during data collection.

Data were entered in an Excel sheet and analyzed. Descriptive analysis was done and the results were expressed in percentages. The Chi-square test was applied to test the association. The p-value of  $<0.05$  was considered as statistically significant. Ethical committee approval was obtained by the institutional ethics committee (dated: 29/06/2019).

## RESULTS AND OBSERVATIONS

### Socio-demographic details

A total number of 150 adolescent girls participated in the study. More than half of the girls 89(59.3%) in the study population belong to the age group of  $>14$  years. The majority of the girls

95(63.3%) were Hindus followed by Christians 28(18.7%) and Muslims 27(18%). About 112(74.7%) of girls were in high school and the rest 38(25.3%) is in middle school (Table 1).

Out of 150 girl's fathers, 62(41.3%) were educated up to primary school level followed by middle school 44(29.4%), high school 24(16.0%), illiterate 15(10.0%), graduated 3(2.0%), and rest were Post graduated 2(1.4%). The majority of the mothers were 102(68%) housewives followed by 31(20.60%) unskilled workers, 10(6.70%) semiskilled workers, and 7(4.70%) were skilled workers. Among 150 girls, the majority of the 115(76.7%) were living in nuclear families, followed by 21(14.0%) joint families, and 14 (9.3%) three-generation families. According to modified Kuppaswamy classification, most of the study participants 138(92.0%) were in the Lower class and the rest 12(8.0%) were in the upper-lower class (Table 1).

**Table 1: Distribution of study participants based on socio-demographic characteristics (n=150)**

Socio-demographic details	Total (n=150)	Percentage
<b>Age (years)</b>		
<14 years	61	40.7
>14 years	89	59.3
<b>Religion</b>		
Hindu	95	63.3
Muslim	27	18.0
Christian	28	18.7
<b>Education of study participants</b>		
Illiterate	0	0.0
Primary School	0	0.0
Middle School	38	25.3
High School	112	74.7
Pre-University	0	0.0
Graduate	0	0.0
<b>Father's education</b>		
Illiterate	15	10.0
Primary School	62	41.3
Middle School	44	29.3
High School	24	16.0
Graduate	3	2.0
Post Graduate	2	1.4
<b>Mother's occupation</b>		
Housewife	102	68.0
Skilled Worker	7	4.7
Semiskilled Worker	10	6.7
Unskilled worker	31	20.6
<b>Type of family</b>		
Nuclear	115	76.6
Joint family	21	14.0
Three generation	14	9.4
<b>Socio-economic classification</b>		
Upper Class	0	0.0
Upper Middle Class	0	0.0
Lower Middle Class	0	0.0
Upper Lower Class	12	8.0
Lower Class	138	92.0

### Knowledge of menstrual hygiene and its practices

The majority of the adolescent girls 91(60.6%) had attained their menarche between 12-14 years followed by, 38(25.3%) <12 years, and 21(14.0%) attained at >14 years. The menstrual cycles were regular among 125(83.0%) study participants and 25(17.0%) had irregular cycles. About 83(55.3%) of the study population had 3–5 days of bleeding, followed by 38(25.3%) had ≤ 2days of bleeding, and the rest 29(19.4%) had >5 days of bleeding. The majority 58(38.7%) of adolescent girls had 28-32 days menstrual cycle, followed by 54(36.0%) had <28 days' cycle and 38(25.3%) had >32 days cycle. The menstrual flow was normal among 104(69.3%) of the adolescent girls, followed by excessive flow 27(18.0%), and the rest had scanty flow 19(12.6%) (Table 2).

**Table 2: Distribution of study participants according to their menstrual pattern and symptoms associated with menstruation (n=150)**

Variables	Total (n=150)	Percentage
<b>Age at which menarche attained (years)</b>		
<12	38	25.3
12-14	91	60.6
>14	21	14.0
<b>Regularity of menstrual cycles</b>		
Regular	125	83.0
Irregular	25	17.0
<b>Duration of blood flow in days</b>		
<2	38	25.3
3-5	83	55.3
>5	29	19.4
<b>Length of the menstrual cycle in days</b>		
<28	54	36.0
28-32	58	38.7
>32	38	25.3
<b>Quantity of blood flow</b>		
Normal	104	69.3
Excessive	27	18.0
Scanty	19	12.7

Around 130(86.7%) of the adolescent girls were using sanitary pads as absorbents, followed by 15(10%) using fresh cloths, and 5(3.3%) were using both. Among the 15 girls who did not use sanitary pads, 5(3.3%) of them have not given any reason, followed by 4(2.7%) had stated that it was costly, 3(2.0%) said it was difficult to discard, 2(1.3%) of them weren't aware of it, and 1(0.7%) were not comfortable in using sanitary pads (Table 3).

**Table 3: Distribution of study participants according to their menstrual hygiene practices during menstruation (n=150)**

Menstrual hygiene practices	Number (n=150)	Percentage
<b>Type of absorbent used during menstruation</b>		
Sanitary pads	130	86.7
Fresh Clothes	15	10.0
Both	05	3.3
<b>Reasons for not using sanitary pads</b>		
Not disclosed	05	3.3
Costly	04	2.7
Difficult to discard	03	2.0
Not aware	02	1.3
Not comfortable	01	0.7
Not applicable	135	90.0
<b>Disposal of used menstrual absorbent</b>		
Dustbins	94	62.7
Burning	36	24.0
Burying	20	13.3
Flush in toilet	00	0.0
Throw roadside	00	0.0
<b>Regularity of bathing during menstruation</b>		
Regular (1 time daily)	139	92.7
Regular (2 times daily)	08	5.3
Irregular	03	2.0
<b>Cleaning of the genital area</b>		
<3 times	18	12.0
>3 times	04	2.7
Only during bath	40	26.7
During micturition	88	58.6
<b>Agents used for cleaning purposes</b>		
Water only	60	40.0
Soap and water	77	51.4
Dettol/ hand wash	11	7.3
Any other agents	02	1.3

Out of 150 adolescent girls, the majority 113(75.3%) did not know about menarche before attaining puberty while the remaining 37(24.7%) were aware of it. Out of the 37 who knew about menarche before puberty, 11(7.3%) acquired knowledge through their mother, followed by 16 (10.7%) from friends/relatives and 10(6.7%) from their sister. About 87(58.0%) of adolescent girls did not know the organ of bleeding followed by 37(24.7%) stated uterus, 18(12.0%) thought vagina, and 8(5.3%) thought urinary bladder as the organ of bleeding. Out of 150 study participants, 66(44.0%) knew that bleeding is a physiological phenomenon, followed by 53(35.3%) were not aware of the cause of bleeding and 31(20.7%) thought it was a God-given phenomenon (Table 4).

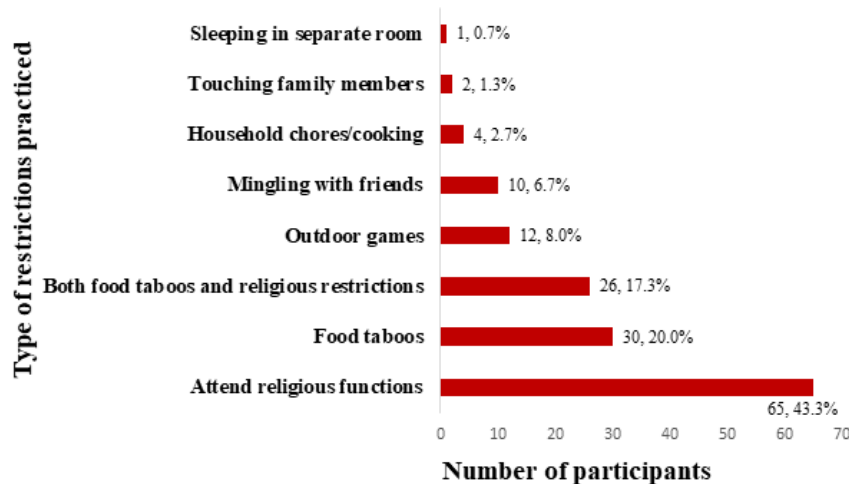
**Table 4: Distribution of study participants according to their knowledge about menstruation (n=150)**

Attributes	Total (n=150)	Percentage (%)
<b>Knowledge about menstruation before menarche</b>		
Yes	37	24.7
No	113	75.3
<b>Source of knowledge about the menstrual cycle</b>		
Friends/relatives	16	10.7
Mother	11	7.3
Sister	10	6.7
TV/radio/newspaper	00	0.0
Not applicable	113	75.3
<b>Knowledge of organ from which the bleeding occurs</b>		
Uterus	37	24.7
Urinary Bladder	08	5.3
Vagina	18	12.0
Do not know	87	58.0
<b>Knowledge about the cause of menstruation</b>		
Physiological	66	44.0
God-given	31	20.7
Result of sin	00	0.0
Due to disease	00	0.0
Do not know	53	35.3

**Restrictions practiced during Menstruation**

Coming to the restrictions practiced during menstruation, the majority were not going to temple 65(43.3%), followed by food taboos 30(20.0%), both food taboos and religious restrictions 26(17.3%), no outdoor games 12(8.0%), not mingling with friends 10 (6.7%), not allowed to do household chores or cooking 4(2.7%), no touching of family members 2(1.3%), and sleeping in separate room 1(0.7%) (Figure 1).

**Figure 1: Distribution of study participants based on various restrictions on their routine activities during menstruation (n=150)**



## DISCUSSION

In the present study, the majority 91(60.7%) had attained menarche between 12 & 14 years of age. Similarly, the study conducted by JogandK al [7] showed that the majority 187(72.7%) had attained between 12 & 14 years of age. Around 83(55.3%) of the participants had 3 to 5 days of menstrual flow and Krishnaleela G et al [3] findings are also in accordance with the present study 110(55%). In this study, 113(75.3%) of the participants were unaware of the menarche before puberty, and the similar studies carried out by Dasgupta A et al [6], and Jogand K al [7] also showed that their participants were unaware of the menarche 52(32.5%) and 164(63.8%). The present study showed that friends/relatives were the predominant sources of awareness about menstruation for our adolescent girls 16(10.7%). This is in contrast with studies conducted by Dasgupta A et al [6], and Jogand K al [7] which showed that mothers are the primary source of information 60(37.5%) and 57(61.2%) respectively. Close relationships with friends may be the reason for the present study finding.

In the present study, 130(86.7%) of the study population used sanitary pads as menstrual absorbents. About 5(3.3%) of girls used clothes and 15(10.0%) of girls used both clothes and pads in the study. Thus the practice of using sanitary pads is high in this study area. This present study finding was comparable with study findings in Puducherry by PriyaHS et al [8] where they reported that the majority of the girls 448(89.2%) used sanitary pads. In this study, around 5(3.3%) of girls did not give any reason for not using sanitary pads and 4(2.7%) think that sanitary pads are costly. The majority 94(62.7%) of girls disposed of their used pads in dust bins and a similar study conducted by Gandotra N [9] showed that the majority 108(90%) of girls used dust bins.

Our study showed that only 37(24.7%) of the participants knew that uterus was the organ of bleeding. About 87(58.0%) of the participants did not have any idea about the organ of bleeding. In Nigeria, 100(22.3%) of the girls commented that bleeding originates from the uterus [10]. In the present study, only 66(44.0%) of the girls believed it was a physiological process. This in contrast to the study by Dasgupta et al [6] reveals that 138(86.2%) of the participants believed it as a physiological process. Regarding hygiene practices, 147(98.0%) of girls had a regular bath. For cleaning external genitalia, 51.3% of the study population uses soap and water only. Das S et al [11] study says that 62 (53.9%) of their study population also used the same in urban areas.

Different restrictions were practiced by most of the girls in this study due to their false beliefs & improper perception about menstruation. Multiple restrictions were followed by every adolescent girl including avoiding going to the temple, avoiding playing and certain kinds of food items, and even restricting their daily routine. Restrictions such as separation from the family during menstrual bleeding, not touching anyone in the family & sleeping outside the house were also found to be practiced. The commonest restriction around among the study population avoids going to temple, this is in accordance with the study by Sharma et al [12] and Deshpande TN et al [13] which shows that about 51(86.4%) and 80(80.0%) respectively avoided going to temple.

## CONCLUSION

The present study assessed the knowledge, restrictions, and menstrual hygiene practices among adolescent girls in an urban community in Thoothukudi. Results revealed that most of the girls were aware of sanitary pads and are using them. More than one-third of the study population uses only water for cleaning external genitalia. The hygiene practices were satisfactory among the study population. But they are lacking adequate knowledge regarding menstruation. Only one-fourth were aware of menarche prior to puberty. Mothers of adolescent girls were ignorant about informing daughters about menstruation prior to menarche. All mothers irrespective of their educational status should be taught to break their inhibitions about discussing with their daughters regarding menstruation.

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