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RESEARCH ARTICLE

A Study to Assess the Level of Knowledge and Knowledge on Practice in Terms of Menstrual Hygiene Among Adolescent Girls

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Abstract: Adolescence and adulthood are crucial as such individuals experience major changes in their physical, hormonal, emotional, behavioural, and mental health. Adolescent is defined as life between 10 and 19 years of age in girls; it is a phase of transition from girlhood to womanhood in females, menstruation marks the beginning of the adolescent. Menstruation is a physiological phenomenon which is unique to female in teenage, the onset of menstruation is one of the most important changes occurring among the girls during the adolescent year. Menstrual hygiene depends upon the education, socio-economic and cultural statuses of the family. But many lack economic and social conditions to manage menstrual sanitation satisfactorily. Menstruation is still regarded as something unclean or dirty in Indian society. The reaction to the menstruation is depends awareness and knowledge about the subject. Hence, the present study was aimed to carry out with a view to assess the knowledge and knowledge on practice on menstrual hygiene among adolescent girls. The frequency and percentage distribution of demographic variables among adolescent girls based on demographic variables were observed in Gangadhara matriculation school at Ranipet. The level of knowledge 4 (13%) were belong to adequate, 1 (3.33%) were belongs to Inadequate, 25 (83.56%) were moderate knowledge on practice, 21 (70%) were belong to adequate and 9 (30%) were belong to inadequate knowledge. There was a clear north-south divide in the exclusive use of hygienic methods among adolescent women in rural India. The results of multilevel logistic regression indicated a considerable amount of variation in the exclusive use of hygienic methods at community level which further reduced when controlled for individual and community-level factors.

Keywords: Young girls, Adolescence, Menstruation, Hygiene, Knowledge, and Demographic.

INTRODUCTION

Menstruation is a normal and healthy part of life in women. Roughly half of the female population around 26 percent of the global population are of reproductive age. Most women menstruate each month for about two to seven days. Adolescent is defined as life between 10 and 19 years of age in girls; it is a phase of transition from girlhood to womanhood in females, menstruation marks the beginning of the adolescent. But they are not prepared and there is lack of knowledge about menstruation among adolescent girls[4]. Menstruation is a physiological phenomenon which is unique to female in teenage. The onset of menstruation is one of the most important changes occurring among the girls during the adolescent year. The first menstruation occurs between 11 and 15 years with a mean of 13 years[6]. Menstruation is also properly called menses or more commonly a period of monthly flow. It is healthy natural and mature process. A menstruation is the first indication of puberty. During puberty, the physical changes which transforms the body of child into that of an adult changes in body size and changes in body proportion[7].

Sexual and reproductive health issues are a rising problems around the globe. Among them, menstrual hygiene is critical issues encounter by a women and girls of reproductive age that negatively affects their health and empowerment (WHO, 2022). Across the globe, 1.8 million girls' menstruate each month, yet a major portion of this population lacks adequate knowledge as well as basic facilities to handle their menstruation in an appropriate and healthy way. Moreover menstruation is still deemed a taboo subject in several parts of the world. The literature states that young people low and middle income countries (LMICs) confront challenges related to menstruation and menstrual hygiene practices into religions, cultural and social constraints and due to incorrect information. Moreover ,girls residing in rural areas encounter more problems, since they lack the proper resources, skills and knowledge manage their menstruation in school as well as at home. In Pakistan menstruating girls have insufficient information about practices regarding menstruation and menstrual hygiene and consequently this impacts the well being of such girls[10]. The WHO has defined adolescents as those aged 10 to 19 years, whereas young people range from 10 to 24 years of age.

Girls residing in rural areas encounter more problems, since they lack proper resources and knowledge to manage their menstruation in school as well as at home. Poor menstrual hygiene can lead to reproductive tract infections, absenteeism from school, and increased stigma and embarrassment, all of which negatively impact a girl's quality of life and educational outcomes. By identifying gaps in knowledge and practice, the

findings of this study can inform targeted educational programs, health interventions, and policy reforms aimed at improving menstrual health literacy. It will also aid parents, educators, and healthcare providers in understanding the specific needs of adolescent girls and how best to support them. Furthermore, this research may contribute to breaking taboos and encouraging open dialogue about menstruation, helping to create a more supportive and informed environment for young girls during this important stage of development. Therefore, the current study was aimed to assess the level knowledge and knowledge on practice in terms of Menstrual Hygiene among adolescent girls in Gangadhara Matriculation School at Ranipet.

MATERIALS AND METHODS

The selection of research approach is the basic procedure of the conducting a research enquiry. It tell the researcher what data to collect, how to analysis it and also suggests possible conclusion to be drawn from the data. Quantitative research approach was used in this study as the research aimed to assess the knowledge and practice regarding menstrual hygiene among adolescent girls. Research design is referred to the researchers overall and for collecting and analysing the data and specification for enhancing the validity of the study .the research design spells the strategies that the researcher adopted to develop accurate and objective information .the research design adopted for this study in non- experimental descriptive research design.

Research Variables and target population

Research variables can be defined as qualities, attributes, properties or characteristics that are observed or measured in a natural setting without manipulating and establishing cause and effect relationship. Here the research variables are knowledge and practice regarding menstrual hygiene among adolescent girls. The target population selected for the study comprise adolescent girls in selected schools at Ranipet.

Sample size and sampling technique

The sample size of this study is 30, those who are available at the time of data collection and fulfil the inclusion criteria. It is a process of selecting a portion of population to the represent the entire population. A non-probability convenient sampling was adapted in the study

Sampling criteria

Inclusion criteria:

It refers to the characteristics that a subject must process to be a part of the target population, those who are willing to participate, who are attained menarche, and who can read, write and understand Tamil and English.

Exclusion criteria:

It refers to the characteristics that make an element excluded from the target population.

In this study exclusion criteria are those who are not resent during the time of study, and those who are not having the age between 13-18 years.

Demographic data

It is deal with demographic variables such as age of the student, year of the study, gender, type of family, residence, occupation of the father, family monthly income in rupees and source of information.

Structured knowledge questionnaire

The questions were selected and four options were given below each question. The structured questionnaire consisted of 20 multiple choice questions, and each questions had four options which included correct answers. The participants were free to choose any one option for each question. The score was calculated by dividing the total number of obtained score by the total number of maximum score and expressed in percentage. Based on the scores the knowledge was graded.

S. No	Level of knowledge	Score	Percentage %
1	Inadequate (1-6)	1-16	3.33%
2	Moderate adequate (7-13)	25	83.33 %
3	Adequate (14-20)	4	13.33 %

Questionnaire of practice

This section consists of 10 question assess the Knowledge on practice on menstrual hygiene. The participants are allowed to choose the appropriate option on the checklist.

S .No	Knowledge on practice	Score	Percentage %
1	Adequate	11-20	>50 %

2	Inadequate	1-10	<50%

Data collection

The prior permission was obtained from the head of the institution. The class room is arranged for the data collection procedure. After obtaining consent from the study samples, the samples were selected by using non probability convenient sampling technique. The researchers will collect the demographic data of the sample and administer the structure knowledge questionnaire on level of knowledge and knowledge on practice regarding menstrual hygiene and administered the questionnaire on practice. The samples were informed that the anonymity was maintained. The collected data was data analyzed by using descriptive and inferential statistics.

Statistical analysis

Data analysis enables the researcher to organize summarize evaluate interpret and communicate numerical information. Data analysis was done by using descriptive and inferential statistics.

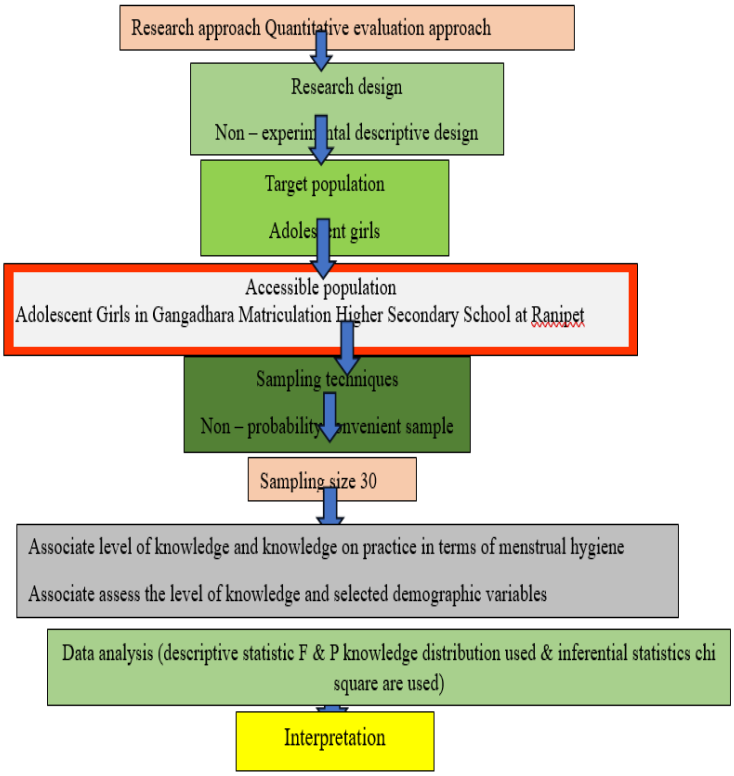

Figure 1. Schematic representation of research approach

RESULTS

Table 1. Frequency and Percentage distribution of Adolescent girls based on demographic variables (N = 30)

S. No	Demographic variables	Frequency	Percentage
1	Age		
	a) 13-15 years	12	40%
	b) 16-18 years	18	60%
2	Education of study participants		
	a) 6 - 8 std		
	b) 9 – 10 std	7	23.33%
	c) 11 – 12 std	5	16.66 %
		18	60 %

3	Mothers education		
	a) Illiterate	3	10%
	b) High school	14	46.66%
	c) Higher secondary	7	23.33%
	d) Graduate	6	20 %
4	Religion		
	a) Hindu	25	83.33 %
	b) Christian	1	3.33%
	c) Muslim	4	13.33 %
5	Socio economic status		
	a) Low class	3	10%
	b) Middle class	26	86.66%
	c) High class	1	3.31%

In this study, Table 1 shows the distribution of demographic variables of adolescent girls according to their age group13-15years (40%) were belongs to 16-18 years (60%.Regarding education of adolescent girls according to their education of the study participants 6-8 std (23.33%) , 9-10 std (16.66%), 11-12 std (60%). Regarding percentage distribution of adolescent girls mother's education illiterate (10%), high school (46.66%), higher secondary (23.33%), graduate (20%). Regarding percentage distribution of adolescent girl's religion Hindu was 83.33%, Muslim 13.33%, and Christian 3.33%. Regarding percentage distribution of adolescent girl's socio economic status - low class were 10%, middle class 86.66% and high class 3.31%.

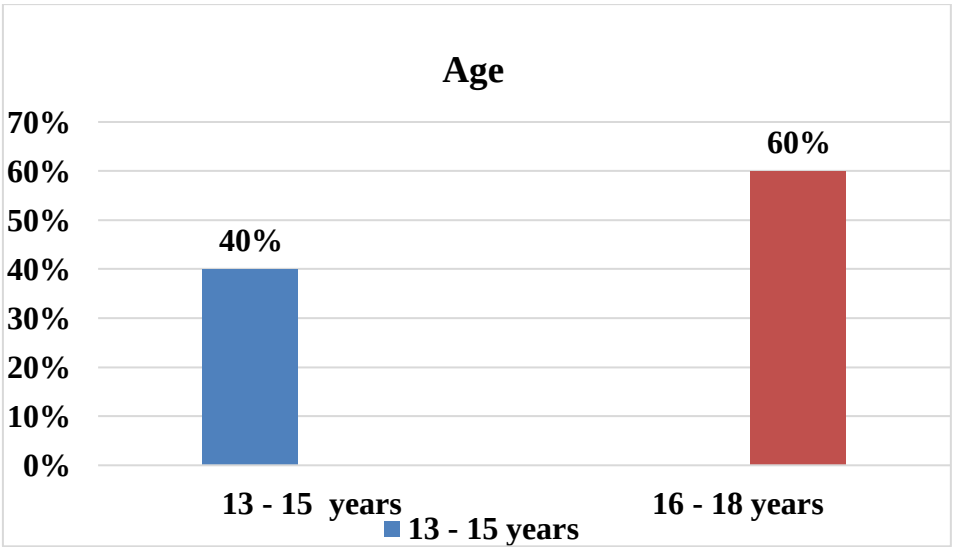

Figure 2. Frequency and percentage distribution of adolescent girls according to their age group 13-15years (40%) were belongs to 16-18 years (60%)

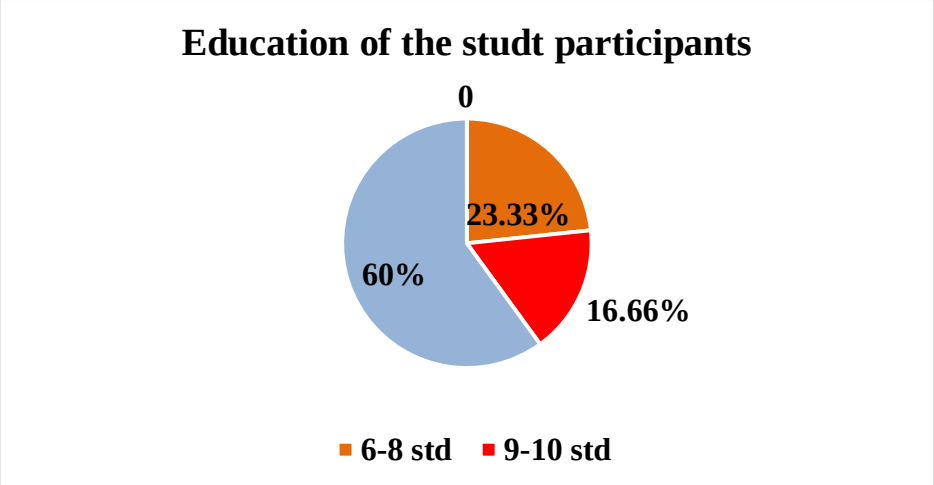

Figure 3. Frequency and percentage distribution of adolescent girls according to their education of the study participants 6-8 std (23.33%), 9-10 std (16.66%), 11-12 std (60%)

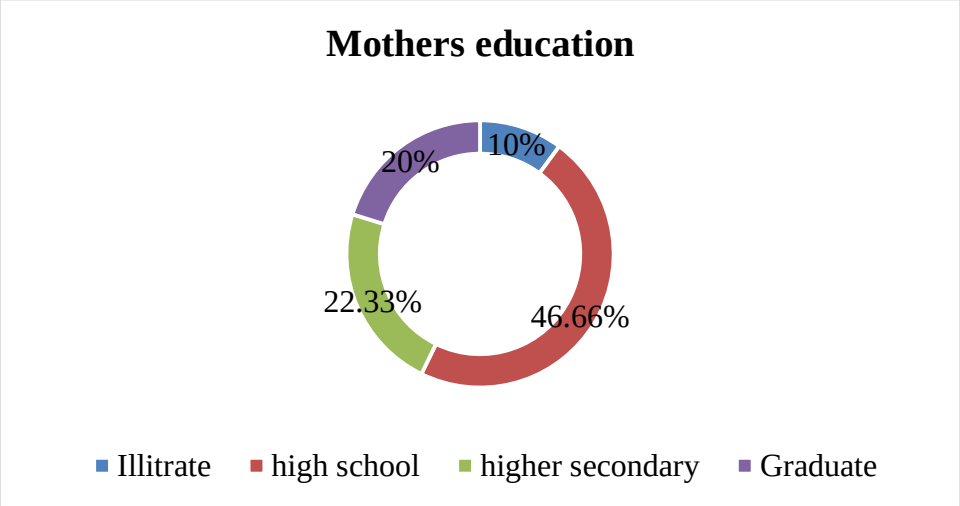

Figure 4. Frequency and percentage distribution of adolescent girl's mother's education Illiterate (10%), high school (46.6%), higher secondary (23.33%), and graduate (20%).

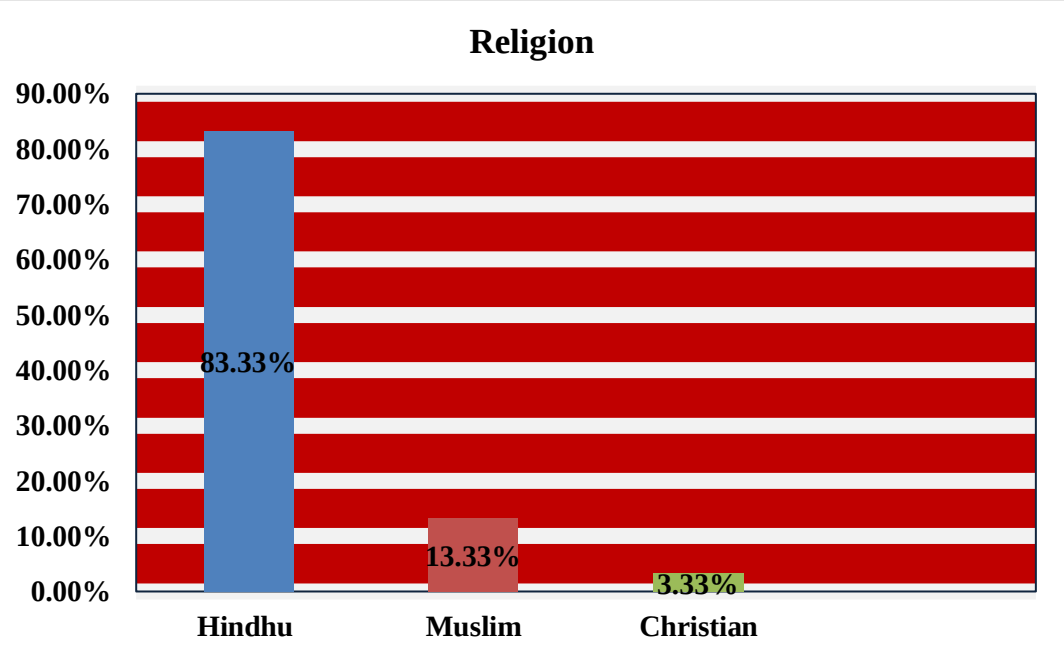

Figure 5. Frequency and percentage distribution of adolescent girl's religion - Hindu (83.33%), Muslim (13.33%), and Christian (3.33%).

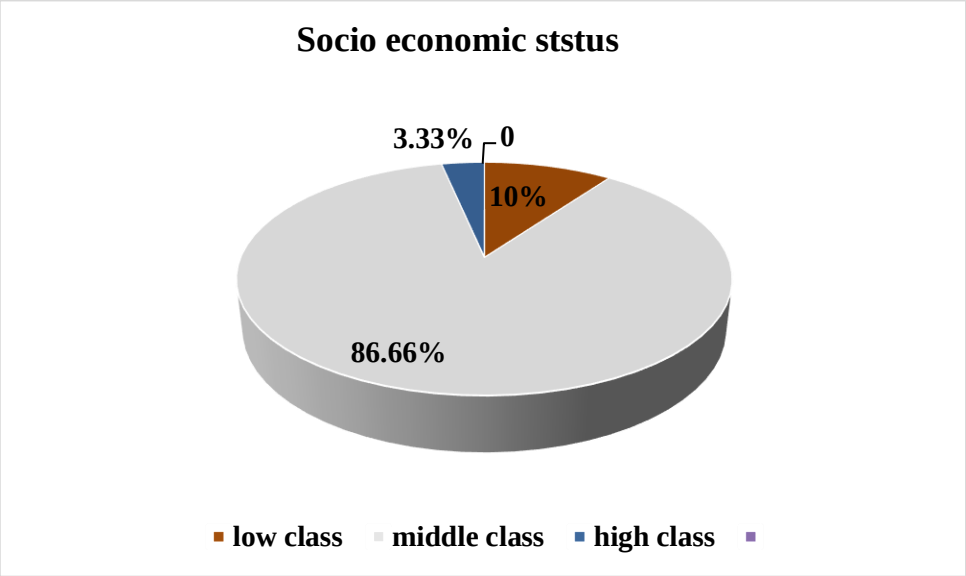

Figure 6. Frequency and percentage distribution of adolescent girl's socio economic status - low class (10%), middle class (86.66%), and high class (3.31%).

Table 2. Frequency and percentage distribution of level of knowledge regarding menstrual hygiene for adolescent girls (N = 30)

S. No	Level of knowledge	Frequency (f)	Percentage %
1	Inadequate	1	3.33%
2	Moderate	25	83.56%
3	Adequate	4	13 %

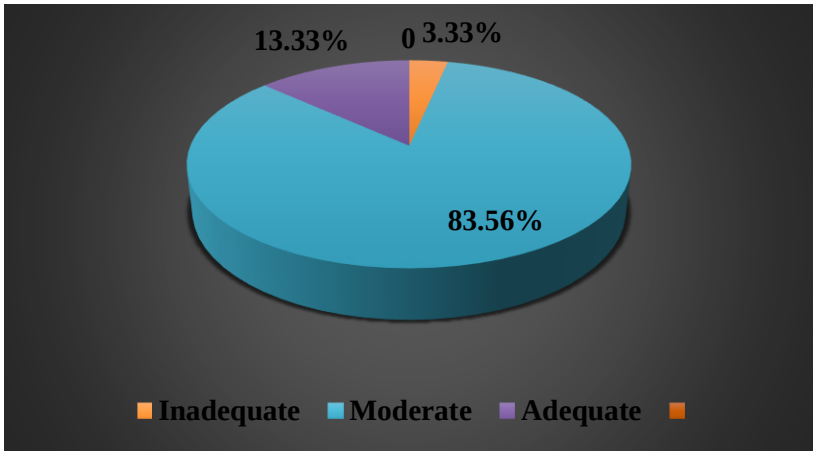

Figure 6. Frequency and percentage distribution of level of knowledge

Frequency and percentage distribution of adolescent girls according to their level of knowledge 4 (13%) were belong to adequate, 1 (3.33%) were belongs to Inadequate and 25 (83.56%) were moderate.

Table 3. Mean and standard deviation on knowledge regarding menstrual hygiene

S. No	Mean	Standard
1.	11.73	1.71

The mean and standard deviation of knowledge regarding menstrual hygiene is 11.73 and 1.71. Table 4. Frequency and percentage distribution level of knowledge on practice regarding menstrual hygiene among adolescent girls.

S. No	Practice	Frequency (F)	Percentage (%)

1.	Adequate	21	70%
2.	Inadequate	9	30%

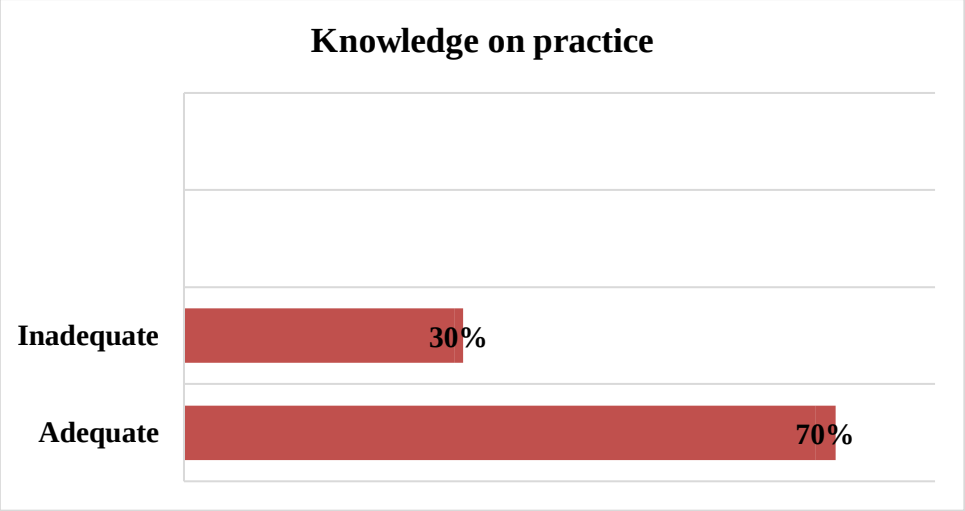

Figure 4. Frequency and distribution of level of knowledge on practice

S. No	Demograhic Data	Level of knowledge						DF	Chi-square	Table value	Significance
		Inadequate		Moderate		Adequate					
		F	%	F	%	F	%				
1	**Age**										*P*-0.0000
	a) 13-15	0	0	25	83.33%	0	0	2	30	5.99	S
	b) 16-18	3.33%	0	0	4	13.33%					
2	**Education**										
	a) 6-8 std	0	0	7	23.33%	0	0	0	0	9.49	
	b) 9-10 std	0	5	16.66%	0	0	0	4			*P*-0.0455
	c) 11-12std	3.33%	13	43.33%	4	13.33%			4.00		NS
3	**Education of mother**										
	a) Illiterate	0	0 3	10%	0	0%					
	b) High school	0	0	11	36.66%	3	10%	6.		12.59	*P*-0.0140
	c) Higher secondary	0	0	6	20%	1	3.33%	03			NS
4	**Religion**										
	a) Hindu	1	3.33%	22	73.33%	2	6.66%				*P*-0.0055
	b) Christian	0	0%	0	0%	1	3.33%	4	7.70	9.49	NS
	c) Muslim	0	0%	3	10%	1	3.33%		4		
5	**Socio Economic Status**										
	a) Low-class	1	3.33%	1	3.33%	1	3.33%				*P*-0.0009
	b) Middleclass	0	0%	23	76.66%	3	10%	4	11.1	9.49	S
	c) High class	0	0%	1	3.33%	0	0%		11		

Table 5. Association between level of knowledge and knowledge on practice among menstrual

**P < 0.05, significant and **P < 0.01 & ***P < 0.001, highly significant.*

However, that there was significant associated between Level of Knowledge at $p< 0.01$ level. Hence research hypothesis H3 was accepted.

Table 6. Association between level of knowledge regarding menstrual hygiene and selected demographic variables among Adolescent girls.

S. No	Demographic Data	Knowledge on practice				Df	Chi Square	Table value	Significance
		Inadequate		Adequate					
		F	%	F	%				
1	**Age**								
	13-15	4	13.33%	8	26.66%	1	0.106	3.84	*P*-0.7447
	16-18	5	16.66%	13	43.33%				NS
2	**Education**								*P*-0.3617
	6-8 std	3	10%	4	13.33%	2	0.832	5.49	NS
	9-10 std	1	3.33%	4	13.33%				
	11-12 std	5	16.66%	13	43.33%				
3	**Education of mother**								
	Illiterate	0	0%	3	10%	3	1.542	7.82	*P*-0.2143
	High school	5	16.66%	9	30%				NS
	Higher Secondary	2	6.66%	5	16.66%				
	Graduate	2	6.66%	4	13.33%				
4	**Religion**								
	Hindu	8	26.66%	17	56.66%	2	0.523	5.99	*P*-0.4696
	Christian	0	0%	1	3.33%				NS
	Muslim	1	3.33 %	3	10%				
5	**Socio Economic Status**								
	Low class	1	3.33%	2	6.66%	2	2.466	5.99	*P*-0.1163
	Middle class	7	23.33%	19	63.33%				NS
	High class	1	3.33%	0	0%				

**P < 0.05, Significant and ** P < 0.001. Highly significant*

In this study, Table 6 shows that there was no significant associate between knowledge on practice and selected demographic variables. Correlate the level of knowledge and knowledge on practice was performed by the using person's formula. In this study, the correlate the level of knowledge and knowledge on practice was found to be R= 0.554.

DISCUSSION

The study was carried out with a view to assess the knowledge and knowledge on practice on menstrual hygiene among adolescent girls. Data analysis shows that frequency and percentage distribution of demographic variables among adolescent girls based on demographic variables. This table consists of Age, Education, Education of mother, Religion, Socio economic status. The percentage distribution demographic variables of adolescent girls in Gangadhara matriculation school at Ranipet. Among them, their age group13-15years (40%) were belongs to 16-18 years (60%.Regarding education of adolescent girls according to their education of the study participants 6-8 std (23.33%), 9-10 std (16.66%), 11-12 std (60%). Regarding percentage distribution of adolescent girls mother's education illiterate (10%), high school (46.66%), higher secondary (23.33%), graduate (20%). Regarding percentage distribution of adolescent girl's religion Hindu Muslim and Christian was 83.33%, 13.33%, and 3.33%, respectively. Regarding percentage distribution of adolescent girl's socio economic status was low class (10%), middle class (86.66%) and high class (3.31%). The level of knowledge 4 (13%) were belong to adequate, 1 (3.33%) were belongs to Inadequate, 25 (83.56%) were moderate knowledge on practice, 21 (70%) were belong to adequate and 9 (30%) were belong to inadequate knowledge. A similar findings were recorded by Boruah (2022) the study is about the onset of menstruation is an important event in a women

life cycle, it associated with taboos and socio-cultural restrictions. The study reveals that 91.76% of the adolescent knew that menstruation was normal. About 27.65% of the study participants did not know the cause of menstruation. And54.12% did not know about this source of menstrual bleeding. Only 33.53% knew that uterus is the source of bleeding about 61.76% of the study participants knew about the duration of a normal menstrual period regarding practices 74.12% of the adolescent use sanitary ads during menstruation .18.82% use clothes and 7.06% use the both cloth and sanitary pads in about 63.53% the method of disposal of used absorbent was throwing with domestic waste. Further, Singh (2022) was examined the factors affecting adolescent women's exclusive use of hygienic methods in rural India. Additionally, this study explores state- and district-level geographical disparities in the exclusive use of hygienic methods among adolescent women in rural India. In rural India, only 42% of adolescent women exclusively used hygienic methods, with substantial geographic disparities at the state and district levels. At the state level, the exclusive use of hygienic methods varied from 23% in Uttar Pradesh to 85% in Tamil Nadu. Even greater variation was observed at the district level. There was a clear north-south divide in the exclusive use of hygienic methods among adolescent women in rural India. The results of multilevel logistic regression indicated a considerable amount of variation in the exclusive use of hygienic methods at community level which further reduced when controlled for individual and community-level factors. Rural Indian adolescent women with higher education (AOR: 3.20, 95% CI: 2.81–3.64), from general category (AOR: 1.14, 95% CI: 1.07 - 1.21), with medium mass media exposure (AOR: 1.43, 95% CI: 1.35 - 1.51), and from richest wealth quintile (AOR: 3.98, 95% CI: 3.69 - 4.30) were more likely to use hygienic methods exclusively.

CONCLUSION

The present study concludes that level of knowledge and knowledge on practice in terms regarding menstrual hygiene among adolescents' girls in Gangadhara matriculation school at Ranipet revealed significant relationship between level of knowledge and knowledge on practice. The level of knowledge 4 (13%) were belong to adequate, 1 (3.33%) were belongs to Inadequate, 25 (83.56%) were moderate knowledge on practice, 21 (70%) were belong to adequate and 9 (30%) were belong to inadequate knowledge. There was a clear north-south divide in the exclusive use of hygienic methods among adolescent women in rural India. The results of multilevel logistic regression indicated a considerable amount of variation in the exclusive use of hygienic methods at community level which further reduced when controlled for individual and community-level factors.

REFERENCES

1. Joe, J. (2024). 500+ slogans for period positivity (Stop the stigma). Slogan Genius. https://slogangenius.com/slogans-for-period-positivity/#best-slogans-for-period-positivity – 1
2. Wikipedia contributors. (2025). Hygiene. Wikipedia. https://en.wikipedia.org/wiki/Hygiene
3. UNICEF. (2018, May 25). FAST FACTS: Nine things you didn't know about menstruation. UNICEF. https://www.unicef.org/press-releases/fast-facts-nine-things-you-didnt-know-about-menstruation.
4. Priya, D. B., Kumari, A., & Meena, J. M. (2019). A study to assess the knowledge on menstrual hygiene among adolescent girls in selected schools, Mangalagiri, Guntur District, Andhra Pradesh. International Journal of Nursing Education, 11(4), 55–60. https://medicopublication.com/index.php/ijone/article/download/3942/3705/7344
5. Dasgupta, A., & Sarkar, M. (2008). Menstrual hygiene: How hygienic is the adolescent girl? Indian Journal of Community Medicine, 33(2), 77–80. https://doi.org/10.4103/0970-0218.40872
6. Paria, B., Bhattacharyya, A., & Das, S. (2014). A comparative study on menstrual hygiene among urban and rural adolescent girls of West Bengal. Journal of Family Medicine and Primary Care, 3(4), 413–417. https://doi.org/10.4103/2249-4863.148131
7. Wikipedia contributors. (n.d.). Menstrual hygiene management. Wikipedia. Retrieved April 22, 2025, from https://en.wikipedia.org/wiki/Menstrual_hygiene_management
8. Wu, J., Williams, K., Chen, H. H., Khabsa, M., Caragea, C., Tuarob, S., Ororbia, A., Jordan, D., Mitra, P., & Giles, C. L. (2015). CiteSeerX: AI in a digital library search engine. AI Magazine, 36(3), 35–48. https://doi.org/10.1609/aimag.v36i3.2601
9. Shah, S. F., Punjani, N. S., Rizvi, S. N., Sheikh, S. S., & Jan, R. (2023). Knowledge, attitudes, and practices regarding menstrual hygiene among girls in Ghizer, Gilgit, Pakistan. International Journal of Environmental Research and Public Health, *20*(14), 6424. https://doi.org/10.3390/ijerph20146424
10. World Health Organization. (2022, June 22). WHO statement on menstrual health and rights. https://www.who.int/news/item/22-06-2022-who-statement-on-menstrual-health-and-rights
11. Marván, M. L., Vázquez-Toboada, R., & Smolik, I. (2023). Menstrual health and period poverty in Mexico: An exploratory study. International Journal of Environmental Researchand Public Health, *20*(14), 6424. https://www.mdpi.com/1660-4601/20/14/6424
12. Yalew, M., Adane, B., Arefaynie, M., Kefale, B., Damtie, Y., Mitiku, K., Agmas, A., Biset, G., Alene, T. D., Adane, M., Addisu, E., &Dewau, R. (2021). Menstrual hygiene practice among female adolescents and its association with knowledge in Ethiopia: A systematic review and meta-analysis. PLOS ONE, 16(8), e0254092.

13. Bulto, G. A. (2021). Knowledge on menstruation and practice of menstrual hygiene management among school adolescent girls in central Ethiopia: A cross-sectional study. Risk Management and Healthcare Policy, 14, 911–923. https://doi.org/10.2147/RMHP.S296670
14. Al Mutairi, H., & Jahan, S. (2021). Knowledge and practice of self-hygiene during menstruation among female adolescent students in Buraidah city. Journal of Family Medicine and Primary Care, 10(4), 1569–1575. https://doi.org/10.4103/jfmpc.jfmpc_2321_20
15. Sharma, M., Sharma, K., Pandey Bista, A., Subedi, S., & Lamichhane, S. (2020). Knowledge on menstruation and menstrual hygiene practices among adolescent girls of selected schools, Chitwan. Journal of Chitwan Medical College, 10(1), 69-73. https://doi.org/10.54530/jcmc.151
16. Michael, J., Iqbal, Q., Haider, S., Khalid, A., Haque, N., Ishaq, R., Saleem, F., Hassali, M. A., & Bashaar, M. (2020). Knowledge and practice of adolescent females about menstruation and menstruation hygiene visiting a public healthcare institute of Quetta, Pakistan. BMC Women's Health, 20(1), Article 4. https://doi.org/10.1186/s12905-019-0874-3
17. Sahiledengle, B., Atlaw, D., Kumie, A., Tekalegn, Y., Woldeyohannes, D., & Agho, K. E. (2022). Menstrual hygiene practice among adolescent girls in Ethiopia: A systematic review and meta-analysis. PLOS ONE, 17(1), e0262295. https://doi.org/10.1371/journal.pone.0262295
18. Mohammed, S., Larsen-Reindorf, R. E., & Hodges, M. H. (2020). Menstrual knowledge, sociocultural restrictions, and barriers to menstrual hygiene management in Ghana: Evidence from a multi-method survey among adolescent schoolgirls and schoolboys. PLoS ONE, 15(10), e0241106. https://doi.org/10.1371/journal.pone.0241106
19. Singh, A., Chakrabarty, M., Singh, S., Chandra, R., Chowdhury, S., & Singh, A. (2022). Menstrual hygiene practices among adolescent women in rural India: A cross-sectional study. BMC Public Health, 22(1), 2126. https://doi.org/10.1186/s12889-022-14622-7
20. Anbesu, E. W., & Asgedom, D. K. (2023). Menstrual hygiene practice and associated factors among adolescent girls in sub-Saharan Africa: A systematic review and meta-analysis. BMC Public Health, 23(1), 33. https://doi.org/10.1186/s12889-022-14942-8.