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Effects of Socioeconomic Conditions on Adolescent Girls' Menstrual Hygiene Management in Rural India

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Abstract – The objective of the study is to describe the socio - economic background and Menstrual Hygiene Management (MHM)of the adolescent girls in rural areas. Study also assesses the Knowledge, Attitude and Practice about menarche and menstrual hygiene of the adolescent girls, find out the organization between the selected demographic variables amongst the adolescent girls and analyze the efficiency of the planned teaching of menstrual hygiene program on knowledge, attitude and practice.

Keywords – Adolescent girls, Menstrual Hygiene, Menstrual Hygiene Program, Knowledge, Attitude, Practice

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INTRODUCTION

Adolescents make up around 16 percent of the world's total population. Adolescence is a transitional period between childhood and maturity. Adolescence is a crucial and delicate stage of life. During this time, a lot of physical, mental, and social changes happen.

India is a country of extremes, with significant wealth and poverty, as well as gender-related inequalities and significant differences in health and social indicators between girls and boys. 68 million of the 113 million teenage girls who attend over 1.4 million colleges see bad MHM habits and social taboos as barriers to school enrollment. The Indian government has launched a slew of state-level policies and initiatives that recognize the importance of MHM to girls' welfare, well-being, and educational achievements. Several independent MHM studies have been conducted across India, with the goal of learning more about the socio-economic, educational, and health issues that low MHM girls face.

Girls throughout their adolescence are frequently unwilling to discuss this with their parents, friends, or anybody else. They are still hesitant to seek treatment for their menstrual irregularities. As a result, teenage females are unaware of scientific facts and sanitary health measures. Menstrual disorders are the most common gynecological problem among teenagers, and if left untreated, they can have a negative impact on their reproductive health in the future. Poor sanitation, unclean water, and a lack of personal hygiene put them at danger of developing a range of illnesses.

Women will be protected from suffering by adequate menstrual hygiene, as well as right perspective and belief. Menstruation and menstrual hygiene are topics that most women learn about through their moms, sisters, and aunts. With greater awareness and safe menstruation habits, infections of the reproductive system and their effects may be prevented. Students would be encouraged to explore the links between knowledge, behavior, and enhanced human health in the ideal menstrual health education curriculum. It would also help to enhance the health of mothers.

METHODOLOGY

This study targets 500 adolescent girls from rural areas of four Indian states. They are Tamilnadu, Uttar Pradesh, Maharashtra and Kerala.

SAMPLING

For this study, 500 adolescent girls were chosen at random as sample cases.

DATA COLLECTION

Primary data was collected on school grounds during school hours with the verbal permission of the respective school principal. The consent was

obtained, and the responses was kept confidential. Secondary data was selected from different sources such as journals, articles, books, thesis, internet sources etc.

PILOT STUDY

The pilot study was place in Tamil Nadu, Uttar Pradesh, Maharashtra, and Kerala's rural areas. The pilot analysis would help the researcher refine and improve the data collection technique so that it can be used to evaluate the feasibility of a proposed training curriculum on menstrual hygiene for adolescent girls.

RESULTS:

Demographic profile of the respondents

55.2 percent of the respondents were between the ages of 14 and 15, 25.6 percent were between the ages of 12 and 13, and 19.2 percent of the respondents were between the ages of 16 and 17. The respondents have attained menarche between 12 -13 years; 24.2 %of the respondents attained menarche in the 14 - 15 years age and only 5.4 percent have attained menarche between 16 - 17 years. 76.4 percent of the girls were Hindu; 16.8 percent were Christians and only 6.8 percent were Muslims. According to the statistics in table 4.4, 78.2 percent of respondents lived in nuclear families, while only 21.8 percent lived in joint family systems. Table shows that the monthly income of 56.2 percent of the respondents was less than Rs.3000; 34.4 percent of the respondents' monthly income was less than Rs.5000 and only 9.4 percent of the respondents' monthly income was greater than Rs.5000. A mother's education plays an important role in the health of the girls. According to Table 4.6, 32.2 percent of the respondents' moms were educated, 25.2 percent had studied up to eighth grade, and 25.2 percent were illiterate.

- Mean and SD of knowledge, attitude and practice about menarche and menstrual hygiene of the adolescent girls

- Mean and SD of Knowledge of the Respondents on Menstrual Hygiene

Table 1 shows that before the proposed instruction program, the respondents' mean score on menstrual hygiene knowledge was 5.27, with a standard deviation of 1.87. The mean score after the intended instructional program is 8.22, with a standard deviation of 1.18.

The above analysis underlines the fact that the planned teaching program on menstrual hygienic practices was very effective in increasing the knowledge of the girls about menstrual practices and menstrual hygiene.

Based on this finding, we can assume that adolescent girls have learnt good hygienic practices and developed a good confidence in managing the event of menses.

Table 1: Mean and SD of Knowledge of the Respondents on Menstrual Hygiene

Knowledge	Mean	SD
Pre Test	5.27	1.87
Post Test	8.22	1.18

- **Mean and SD of Attitude on Menstrual Hygiene of the Respondents**

Table 2 reveals that before the intended teaching program, the respondents' mean attitude toward menstrual hygiene was 14.11 with a standard deviation of 3.67, and after the planned teaching program, the mean score was 30.33 with a standard deviation of 3.65. According to the findings, the implementation of a structured training program on sanitary practices resulted in a beneficial improvement in the attitudes of the girls regarding menstruation cleanliness.

Table 2: Mean and SD of Attitude on Menstrual Hygiene of the Respondents

Attitude	Mean	SD
Pre Test	14.11	3.67
Post Test	30.33	3.65

Mean and SD of Practice on Menstrual Hygiene of the Respondents

Table 3 reveals that before the intended teaching program, the respondents' mean score of practice on menstrual hygiene was 6.99 with an SD of 1.71, and after the planned teaching program, the mean score was 9.18 with an SD of 0.86. After the implementation of a structured educational program on period hygiene, correct menstrual hygienic practices among schoolgirls have risen, according to this report. Based on these findings, it is advised that a similar sort of structured instruction program on menstrual hygiene be implemented at government girls schools where impoverished children learn.

Table 3: Mean and SD of Practice on Menstrual Hygiene of the Respondents

Practice	Mean	SD
Pre Test	6.99	1.71
Post Test	9.18	0.86

- **'T' TEST FOR SIGNIFICANT DIFFERENCE**

- **Paired t test for Significant difference between Pre-test and Post-test and KAP of the Respondents on Menstrual Hygiene**

The null hypothesis is rejected at the 0.05 level of significance since the P value is smaller than the table value. As a result, there is a substantial difference between the pretest and posttest, as well as KAP obtained on menstruation hygiene.

It is also seen that the mean scores of the Knowledge, attitude and practice are higher after the posttest than the pre test scores. Hence, it is interpreted that the planned teaching program on menstrual hygiene was very effective in changing the Knowledge, attitude and Practice of menstrual hygiene among school girls in a desired direction.

Table 4: Paired t test for Significant difference between Pre-test and Post-test and KAP of the Respondents on Menstrual Hygiene

KAP	Pre test		Post test		t value	P value
	Mean	SD	Mean	SD		
Knowledge	5.27	1.87	8.22	1.18	53.05	0.000**
Attitude	14.11	3.67	30.33	3.65	89.59	0.000**
Practice	6.99	1.71	9.18	0.86	37.26	0.000**
Overall Score	26.37	4.50	47.73	4.13	107.56	0.000**

Note: ** denotes significance at 0.05 percent level

- **'t' test for Significant difference between Type of Family of the Respondents and Gain score on KAP**

Since P value is greater than the table value, null hypothesis is accepted at 0.05 level of significance. Hence we can assume that there is no significant difference between nuclear type of family and joint type of family and gain score of KAP.

From the above t test, it is found that neither the joint family nor the nuclear family has changed the gain score on Knowledge, attitude and Practice**.**

Table 5: 't' test for Significant difference between Type of Family of the Respondents and Gain score on KAP

Gain Score on KAP	Type of family	Mean	SD	t value	P value
Knowledge	Nuclear family	2.90	1.22	1.495	0.139
	Joint family	3.10	1.32		
Attitude	Nuclear family	16.31	4.17	0.968	0.333
	Joint family	15.89	3.58		
Practice	Nuclear family	2.14	1.32	1.446	0.149
	Joint family	2.35	1.28		
Overall Score	Nuclear family	21.36	4.52	0.039	0.969
	Joint family	21.34	4.18		

- **'t' test for Significant difference between Type of Toilet usage and Gain Score on KAP**

Since P value is greater than the calculated value, null hypothesis is accepted at 0.05 level of significance. Hence there is no significant difference between the usage of own toilets and public toilets and gain score of KAP.

Based on the above t test, it is interpreted that neither the use of own toilets nor the use of public toilets has influenced the gain score on Knowledge, attitude and Practice.

Table 6: 't' test for Significant difference between Type of Toilet usage and Gain Score on KAP

Gain Score	Type of toilet usage	Mean	SD	t value	P value
Knowledge	Own toilets	2.94	1.21	0.027	0.979
	Public toilets	2.95	1.30		
Attitude	Own toilets	16.43	4.05	1.620	0.106
	Public toilets	15.81	4.03		
Practice	Own toilets	2.17	1.31	0.477	0.634
	Public toilets	2.23	1.33		
Overall Score	Own toilets	21.54	4.46	1.328	0.185
	Public toilets	20.98	4.38		

- **ANOVA For Significant Difference**

- **ANOVA for significant difference between the Age (in years) and gain score of KAP on menstrual hygiene**

Since P value is less than table value, null hypothesis is rejected at 0.05 level of significance therefore we can assume that there is a significant difference between the age and the gain score of attitude, practice and overall gain score of menstrual hygiene.

Based on this data it is found that girls, when they grow older, they gain more knowledge on menstruation and maintains proper hygienic practices as their level of understanding becomes more rapid as they progress in age.

Table 7: ANOVA for significant difference between the Age (in years) and gain score of KAP on menstrual hygiene

Gain score on KAP	Age (in years)	Mean	SD	F value	P value
Knowledge	12-13	2.89	1.347	0.673	0.569
	14-15	3.01	1.24		
	16-17	2.83	1.08		
Attitude	12-13	14.29	4.52	15.358	0.000**
	14-15	16.67[b]	3.47		
	16-17	17.52[b]	4.08		
Practice	12-13	2.52	1.35	4.850	0.002**
	14-15	2.13[ab]	1.27		
	16-17	1.90[a]	1.31		
Overall Score	12-13	19.70	5.07	8.559	0.000**
	14-15	21.81[b]	3.98		
	16-17	22.25[b]	4.27		

- **ANOVA for Significant difference between the Age of Menarche and Gain Score of KAP on Menstrual Hygiene**

Since P value is less than table value, null hypothesis is rejected at 5 level of significance with respect to attitude, Practice and overall score. Hence there is a significant difference between Age of Menarche and to gain score of attitude, practice and overall score on menstrual hygiene. According to the Duncan Multiple Range Test (DMRT), the age groups of 12-13 years and 14-15 years have considerably different knowledge, attitudes, and practices about menstrual hygiene than teenage females of the same age.

Table 8: ANOVA for Significant difference between the Age of Menarche and Gain Score of KAP on Menstrual Hygiene

Variables	Age of Menarche	Mean	SD	F value	P value
Knowledge	12-13	2.99	1.24	1.370	0.255
	14-15	2.79	1.20		
	16-17	3.07	1.39		
Attitude	12-13	16.61[b]	3.78	15.144	0.000**
	14-15	15.96[b]	4.42		
	16-17	12.33[a]	3.73		
Practice	12-13	2.04[a]	1.25	7.641	0.001**
	14-15	2.56[b]	1.43		
	16-17	2.41[ab]	1.19		
Overall Score	12-13	21.64[b]	4.28	9.652	0.000**
	14-15	21.31[b]	4.61		
	16-17	17.81[a]	4.32		

- **ANOVA for Significant difference between Religion and Gain score of KAP on Menstrual Hygiene**

Since P value is greater than table value, null hypothesis is accepted at 0.05 level of significance with respect to Knowledge, attitude, Practice and overall score of KAP on menstrual hygiene. As a result, there is no significant relationship between religion and knowledge, attitude, or practice scores.

Based on the data, it can be stated that religion has no effect on menstrual hygiene knowledge, attitude, or behavior. The maintenance of hygiene depends on the individual's perception and attitude towards health and health related facts. Hence, it is assumed that religion does not impose a change in maintaining menstrual hygienic practices.

Table 9: ANOVA for Significant difference between Religion and Gain score of KAP on Menstrual Hygiene

Gain score of KAP	Religion	Mean	SD	F value	P value
Knowledge	Hindu	2.93	1.24	0.114	0.892
	Christian	2.99	1.18		
	Muslim	3.00	1.41		
Attitude	Hindu	16.16	3.99	1.398	0.248
	Christian	16.80	3.45		
	Muslim	15.53	5.76		
Practice	Hindu	2.21	1.33	0.846	0.430
	Christian	2.02	1.23		
	Muslim	2.29	1.38		
Overall Score	Hindu	21.30	4.43	0.711	0.492
	Christian	21.81	3.70		
	Muslim	20.82	6.02		

- **ANOVA for Significant difference between the Mothers' Educational Status and Gain Score of KAP on Menstrual Hygiene**

In terms of menstrual hygiene knowledge, attitude, and practice, Table 10 shows that P value is greater than table value; null hypothesis is accepted at 0.05 level of significance. Hence there is no statistically significant difference between mother educational status and gain score of knowledge, attitude, and practice of menstrual hygiene. According to DMRT score, there is statistically a significant difference in attitude of mothers who were illiterate than the literate mothers who have studied up to higher secondary, high school, middle school and primary school.

Table 10: ANOVA for Significant difference between the Mothers' Educational Status and Gain Score of KAP on Menstrual Hygiene

Gain score of KAP	Mother Educational Status	Mean	SD	F value	P value
Knowledge	Illiterate	2.92	1.30	0.061	0.993
	Primary	2.98	1.24		
	Middle	2.94	1.15		
	High School	2.95	1.27		
	HSS	2.86	1.42		
Attitude	Illiterate	15.71	4.02	1.066	0.372
	Primary	16.15	3.95		
	Middle	16.44	4.52		
	High School	16.69	3.36		
	HSS	17.05	3.91		
Practice	Illiterate	2.13	1.235	0.241	0.915
	Primary	2.24	1.39		
	Middle	2.24	1.28		
	High School	2.11	1.38		
	HSS	2.09	1.27		
Overall Score	Illiterate	20.76	4.42	0.920	0.452
	Primary	21.36	4.28		
	Middle	21.62	5.02		
	High School	21.75	3.82		
	HSS	22.00	3.78		

CONCLUSION:

All schools should teach students about menstrual hygiene. Girls should be taught how to maintain appropriate menstrual hygiene while at school by their teachers. Seminars, workshops, and conferences on menstrual health issues should be held by women's organizations and professional organizations involved in women's health care. Teachers would be able to address the practical aspect of menstrual management in the formal school environment if premenarcheal training was included in the secondary school curriculum.

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