

EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE AND PRACTICES ON MENSTRUAL HYGIENE AMONG ADOLESCENT SCHOOLGIRLS IN GOVERNMENT SCHOOLS OF LALITPUR

Maharjan S^{1*}, Maharjan M², Shrestha N³, Singh S⁴, Shrestha R⁵

Affiliation

1. M.Sc. Nursing, Assistant Professor, Patan Academy of Health Science, School of Nursing and Midwifery, Lalitpur, Nepal
2. M. Phil Demography, Tribhuvan University
3. RN, MN, Assistant Professor, Patan Academy of Health Science, School of Nursing and Midwifery, Lalitpur, Nepal
4. MN, Lecturer, Patan Academy of Health Science, School of Nursing and Midwifery, Lalitpur, Nepal
5. MN, Lecturer, Patan Academy of Health Science, School of Nursing and Midwifery, Lalitpur, Nepal.

ARTICLE INFO

Received : 27 May, 2020

Accepted : 22 November, 2020

Published : 22 December, 2020

© Authors retain copyright and grant the journal right of first publication with the work simultaneously licensed under Creative Commons Attribution License CC - BY 4.0 that allows others to share the work with an acknowledgment of the work's authorship and initial publication in this journal.



ORA 203

DOI: <https://doi.org/10.3126/bjhs.v5i3.33691>

* Corresponding Author

Ms. Susan Maharjan

Assistant Professor

Department of Nursing

Patan Academy of Health Science (PAHS), School of Nursing and Midwifery

Email ID: isusanaims@gmail.com

ORCID ID: <https://orcid.org/0000-0002-7542-9907>

Citation

Maharjan S, Maharjan M, Shrestha N, Singh S, Shrestha R. Effectiveness of Structured Teaching Program on Knowledge and Practices on Menstrual Hygiene Among Adolescent Schoolgirls in Government Schools of Lalitpur. BJHS 2020;5(3)13. 1181 - 1185.

ABSTRACT

Introduction

Adolescent girls often have lack of knowledge and practices regarding reproductive health including menstruation.

Objectives

To evaluate effectiveness of structured teaching program (STP) to increase level of knowledge and practices on menstrual hygiene among adolescent school girls.

Methodology

Pre-experimental one group pre-posttest study design was applied in four government schools using power analysis for sample size calculation. Data were re-checked for its consistency and analyzed. Descriptive statistical methods were used for describing sample characteristic and inferential statistics was used to evaluate effectiveness of STP. Chi-squared test was used to examine association between selected demographic variables and pretest knowledge level of adolescent girls on menstrual hygiene.

Result

The mean age of participants was 13.79 ± 1.3 years (range from 11-18 years). Distribution of pre-test knowledge among respondents regarding menstrual hygiene showed, 49.21% moderate and 50.79% adequate knowledge respectively. In the case of post-test, all of them demonstrated adequate knowledge and none of them showed inadequate knowledge. Pre-test practices among respondents regarding menstrual hygiene recorded as 3.75% inadequate, 61.25% moderate and 35.0% adequate practices. The pre-test mean score for the level of knowledge was 13.36 ± 1.64, whereas the post-test mean score was 15.8 ± 0.73. Practice related pre-test mean score was 10.66 ± 1.81 in comparison to, post-test mean score 13.34 ± 0.75. There was no significant association found between knowledge regarding menstrual hygiene among adolescents with socio-demographic variables at p < 0.05 level.

Conclusion

It is concluded that the Structured Teaching Program is an effective strategy to improve knowledge and practice regarding menstrual hygiene for adolescent girls.

KEYWORDS

Adolescents, knowledge, menstrual hygiene



INTRODUCTION

In the adolescence period, girls experience the onset of puberty, which brings dramatic alterations in hormone levels and appearance of secondary sex characteristics including menstruation.¹ Adolescent girl often have lack of knowledge regarding reproductive health including menstruation. Yet the importance of menstrual hygiene management is mostly neglected by health-related sectors. Despite major development in the hygiene and sanitary sector, in recent years, the menstrual requirements of adolescent girls have been ignored. In many parts of the developing countries like Nepal, due to socio-cultural barriers, event of menarche may be associated with taboos and myths, adolescent girl lacks proper information and these barriers generate various problems for them which results in unhealthy behavior during their menstrual period.^{2,3} As mentioned in previous studies, around 6-7 years of women's life is spent in menstruating. However, menstrual hygiene related issues are still under resolved. Regardless of development in hygiene and sanitation sector, among adolescents the menstrual requirement has been overlooked. In Nepalese context, parents do not communicate about sexual characteristics with adolescent girls. Restrictions, ignorance of the scientific facts and hygienic health practices in adolescent girls, which sometimes results into adverse health outcomes.⁴ Attitude of parents and society on prioritizing discussion on the related issues are barriers to gather right information among adolescent girls. Menstruation is thus taken to be a matter of embarrassment in most of the cultures. It is an important issue which needs free and open discussions.

The current necessitate of the adolescent girls is to have proper information regarding significance of menstrual hygiene⁵, education and favorable environment to cope with menstruation issues⁶ which would help to have positive effects on their health. The knowledge and practices regarding menstruation are considerably important as they affect their health by increasing risk of infections of urogenital tract. In school, majority of students have no access to clean and safe sanitary pads, or clean and private space to change menstrual clothes or pad. Most important component of menstrual hygiene is water and sanitation and should be accessible to the adolescent girls. Yet, time has come to promote it loudly and unashamedly the role of good menstrual hygiene for the better and stronger health of girls. Educational package regarding menstrual hygiene help to promote it. Most of the studies showed in previous year that, health teaching to the girls regarding importance of menstrual hygiene helps not only increase their knowledge but also promote in good practice management of menstrual hygiene. Health teaching on menstrual hygiene should be emphasis to every adolescent girl as an important component of school health. Though menstruation is natural phenomena, many girls suffer from diseases because of ignorance and unhygienic practice.⁷ It was therefore decided to conduct a study to assess the effectiveness of structured teaching program on knowledge regarding menstrual hygiene for adolescent girls.⁸

This study is conducting with the aim to evaluate the effectiveness of structured teaching program on the level of knowledge and practices on menstrual hygiene among adolescent schoolgirls at Selected Schools of Lalitpur.

METHODOLOGY

Pre-experimental one group pre-posttest design was used. The study was conducted in four government schools of Lalitpur metropolitan city. Among all adolescent girls, studying in class 7, 8 and 9. These schools were selected purposively based on feasibility. These schools were government schools where students were studying from different remote parts of country. Most of the students were from the under privileged group.

Sample size

Power analysis was used to calculate sample size with the value⁹

$$\alpha=0.5$$

$$\text{Modest effect}=0.3$$

$$\text{Power}=0.8$$

In nursing research, generally in quantitative study modest effect was used to calculate the required sample size. Adding non-response rate 10%, sample size was $174 + 17 = 191$. Therefore, sample size was 191. There were 50 girls in Madan Smarak Madhyamik Vidhyalaya, 47 girls were in Shree Krishna Madhyamik Vidhyalaya, 39 girls were in Patan High School and 58 girls were in Adarsha Kanya Niketan High School. In total, 194 students were studying from four schools. Probability Proportionate Stratified Random Sampling was used to select the sample. Proportionate sample was taken by:

1. Madan Smarak Madhyamik Vidhyalaya: $(191/194 * 50) = 49$
2. Shree Krishna Madhyamik Vidhyalaya: $(191/194 * 47) = 47$
3. Patan High School: $(191/194 * 39) = 38$
4. Adarsha Kanya Niketan High School: $(191/194 * 58) = 57$

Criteria for sample selection

- ◆ All adolescent girls studying in class 7, 8 and 9
- ◆ All the adolescent girls who are willing to participate in the study
- ◆ All the adolescent girls who were available at the time of the data collection was included in the study.

The questionnaire consists of 33 multiple-choice questions on menstruation, menstrual hygiene. Formal permission was taken from concerned authority of schools. Ethical approval and access were obtained from Ethical board of National Health Research Council (NHRC) prior to commencement of research. Through school authority, assent form was delivered to the concerned guardians for the permission to collect data. Data was collected only from those students who had guardians' consent. Confidentiality



was maintained by assuring that provided information was used only for study purpose. Anonymity was assured by requesting the respondents not to write the name on questionnaire. During the data collection time, adolescent girls of class 7, 8 and 9 were asked to sit in their respective class rooms. Adolescent girls were kept separately in the classroom and questionnaire was distributed at the same time for the pretest, which took around fifteen to twenty minutes to fill the questionnaire. Immediately conducting pre-test, structured teaching program was conducted to the same students. Sixty to ninety minutes was given for intervention. After 1 month of intervention, post-test was done in the same adolescent girls' group whom whom pretest was done. As it was done during the same session, there were not any new students. Data was collected by researcher herself. A self-administered structured questionnaire was used as the instrument for data collection.

Scoring interpretation

The knowledge regarding menstrual hygiene was measured in terms of knowledge scores. There were 18 questions in knowledge. Each correct answer was given a score of one (1) and incorrect answer was given a score of zero (0). The maximum score was 18 and the minimum score was zero. Similarly, practice related menstrual hygiene consists 15 questions and was measured in terms of practice scores. As of in knowledge, each correct answer was given a score of one (1) and incorrect answer was given a score of zero(0) in practice too. Maximum score was 15 and the minimum score was zero. The level of knowledge and practice was interpreted according to the score's percentage obtained, which is given below:¹⁰

- ◆ Inadequate: < 50%
- ◆ Moderate: 50- 75%
- ◆ Adequate: > 75%¹⁰

Pre-Test: ten percent (10%) of sample size was selected and pre-tested, which was not included in final study. The content validity of the instruments was established by reviewing literature and consulting with research expert, subject specialist and peer. The reliability of the questionnaire was tested by using Cronbach's alpha test method. After completion of the data collection, data was re- checked, reviewed, edited and analyzed daily by the researcher for the completeness and accuracy. Coding and organizing of the information were done before data entry. After completion, collected data was entered by using EPI data and analyzed into Statistical Package for Social Science (SPSS) 20 version. Descriptive statistical methods such as frequency tables, percentage, mean and standard deviation were used to describe sample characteristic and inferential statistics namely paired t-test and chi-squared test were used to show the effectiveness of the package.

RESULTS

The mean age of participants was 13.79 ± 1.3 years (range from 11-18 years). Only 27.2% were from 15-18 years group. Most of the respondents were Hindu (75.4%) followed by Buddhist (14.1%), Christian (7.9%). Most of the mother's highest education status was found to be read and write (40.3%) followed by illiterate (33.0%). Most of the mother's main occupation status was home maker (42.9%) followed by job holder (19.9%). Likewise, most of the father's highest education status was read and write (38.2%). Mostly, fathers of respondents were job holders (30.4%) followed by business (23.0%) and agriculture (23.0%). Most of respondents were belong to nuclear family (77.0%) The mean age at menarche was found to be 12 ± 1.5 years and 16.2% of respondents had not yet started menstruation. Among 191 respondents, majority responded that sources of information regarding menstrual hygiene was parents (66.5%), followed by teachers (12.6(12.0%).%) and book/ mass media (12.0%).

Table 1: Frequency and percentage distribution of level of knowledge and practices regarding menstrual hygiene Pre-Test and post-Test

	Pre-Test n (%)	Post-Test n (%)
Knowledge level (n=191)		
<50%	-	-
50-75%	94 (49.21)	0
>75%	97 (50.79)	191 (100.00)
Practice level (n=160*)		
<50%	6 (3.75)	-
50-75%	98 (61.25)	0
>75%	56 (35.00)	160 (100.00)

*excluded respondents who had not yet started menstruation

Table 1 shows regarding the distribution of pre-test knowledge among respondents regarding menstrual hygiene, 49.21% had moderate knowledge and 50.79% had adequate knowledge. Whereas, all of them demonstrated adequate knowledge after intervention.

The distribution of pre-test practices among respondents regarding menstrual hygiene, 3.75% had inadequate practices, 61.25% had moderate practices and 35.0% had adequate. Whereas, all of them demonstrated adequate practices in posttest.

Table 2: Comparison of pre-test and post-test knowledge score of adolescents regarding menstrual hygiene n = 191

Level of knowledge	Mean± S.D	mean%	Differences in mean%	t	Df	Paired t test
Pre-Test	13.36±1.64	74.22	13.56	-2.216	190	<0.005
Post-Test	15.8±0.73	87.78				

(minus sign when comparing the two t-values, as ± indicates the direction; the p-value remains the same for both directions.)

Tables 2 reveals that the pre-test mean knowledge score was 13.36 ± 1.64 , and it was increased to 15.8 ± 0.73 in the post-test. The calculated paired 't' test value was significant ($t = -2.21$) with alpha level 0.05.

Table 3: Comparison of pre-test and post-test practice score of adolescents regarding menstrual hygiene n=160*

Practices	Mean± S.D	mean%	Differences	t	Df	Paired t test
Pre-Test	10.66±1.81	71.08	18.83	-18.479	159	<0.005
Post-Test	13.34±0.75	89.91				

*excluded respondents who had not yet started menstruation

Table 3 shows that the pre-test mean practice score was 10.66±1.81, and it was increased to 13.34±0.75 in the post test. The tabulated t value is 1.97 and calculated paired 't' test value was significant (t=-18.47) with alpha level 0.05.

Table 4: Association between pretest knowledge regarding menstrual hygiene and socio demographic variables

Characteristics	Knowledge level		(χ ²) Value	p-value
	Adequate knowledge	Moderate Knowledge		
	N (%)	N (%)		
Age				
11-14 years	70(36.64%)	69 (36.12%)	0.21	0.384
15-18 years	25 (13.08%)	27 (14.13%)		
Religion				
Hindu	71(37.17%)	73(38.21%)	4.89	0.191
Buddhist and Christian	25(13.08%)	22(11.51%)		
Mothers' education				
Illiterate	35(18.32%)	28(14.65%)	5.55	0.240
literate	61(31.93%)	67(35.07%)		
Mothers' occupation				
Home-maker, agriculture and labour	65(34.03%)	67(35.07%)	0.68	0.950
Services and business	30(15.70%)	29(15.18%)		
Types of family				
Joint	25(13.08%)	19(9.94%)	2.56	0.070
Nuclear	71(37.17%)	76(39.79%)		

Table 4 Shows there was no significant association found between knowledge regarding menstrual hygiene among adolescents with socio-demographic variables such as age of participants, religion, mothers' education and their occupation and types of family at p<0.05 level.

DISCUSSION

Regarding the socio-demographic factors, mean age of participants was 13.79 ±1.3 years (range from 11-18 years). Most of the respondents were Hindu (75.4%) followed by Buddhist (14.1%), Christian (7.9%). Most of the mother's highest education status was found to be read and write (40.3%) followed by illiterate (33.0%). Most of the mother's main occupation status was found to be home maker (42.9%) followed by job holder (19.9%). The mean age at menarche was found to be 12±1.5 years and 16.2% of respondents had not yet started menstruation. Among 191 respondents, majority responded that sources of information regarding menstrual hygiene was parents (66.5%), followed by teachers (12.6%) and book/ mass media (12.0%). The findings of the study were contradictory to the study of another study which was conducted in Delhi on Effectiveness

of Planned Teaching Programme regarding menstrual hygiene on Knowledge, Attitude & Practice of Adolescent School Girls of Government School where majority (56.0%) of the adolescent girls were between 12-14 years. Most of them (36.0%) were from VI class. Majorities (44.0%) of mothers of adolescent girls were illiterate and the findings was supported to the findings such as majority (88.0%) of the population was Hindu and among them 70.0% were housewives.¹¹

Findings related to use of different types of material to absorb blood, most of them 61.25% used sanitary pads, 31.87% used reusable clothes and 6.87 % used new cloths whereas another ethnography study which was conducted in 24 village in 12 village of Nepal, adolescent girls from rural hill district of Mugu, Achham and Rolpa prefer to use pads though it is not easily available in local medicine shops. In the same study, Brahmin girl of Baitadi she used clothes more often as she has to walk 3-4 hours to find nearest shop to get sanitary pads.¹²

Findings related to pre-test and post-test knowledge regarding menstrual hygiene. The study revealed that the level of knowledge pre-test mean score was 13.36±1.64, and the post-test mean score was 15.8±0.73. The tabulated t value is 1.96 and calculated paired 't' test value was -2.21. The calculated t-value is significantly greater than the table value at an alpha level 0.05. Thus, it develops evident that structured teaching program is effective in improving the knowledge regarding menstrual hygiene. The findings of the study were supported by the finding of the study where pre-test mean knowledge score was 14.66 and the post-test mean knowledge score was 18.66.¹³

Similarly, another study was supporting the finding which was conducted in India among adolescent girls which revealed that pretest level of knowledge regarding menstrual hygiene among adolescent girls was mean value 7.53 and standard deviation 2.17 and post test knowledge was mean 16.83 and standard deviation 2.16. Therefore, post test level of knowledge was higher than pre test level of knowledge.¹⁴

Likewise, findings of the study was supported to the another quasi-experimental study findings that was conducted in India Puducherry among 100 adolescent girls which revealed that pretest knowledge regarding menstrual hygiene among adolescent girls was mean value 11.22 and standard deviation 3.58 and posttest knowledge was mean 22.35 and standard deviation 3.34 Therefore, posttest knowledge was higher than pretest knowledge. In the same study, practice regarding menstrual hygiene was mean value 13.66 and standard deviation 1.58 and posttest practice was mean 18.65 and standard deviation 3.54. Therefore, health education is effective in improving adolescents' knowledge and practice regarding menstrual hygiene.¹⁵

Regarding to the association between pretest knowledge regarding menstrual hygiene and socio demographic variables, there was no significant association found between knowledge regarding menstrual hygiene among



adolescents with socio-demographic variables at $p < 0.05$ level but contradictory to the findings of the study which was conducted in Kolar India where also revealed that there was significant association between knowledge scores of adolescent girls with selected demo-graphic variables such as age, and educational status of mother.¹⁶ Likewise, in contrast to the findings of the study which was conducted in Ethiopia among 791 adolescents' girls where 68.3% had poor knowledge of menstruation. 60.3% of girls had poor menstrual hygiene practice and poor knowledge of menstrual hygiene had significantly associated with poor menstrual hygiene practice.¹⁷

And other study where result showed that significant association between level of knowledge and demographic variables age, such as religion, place of residence, residential area, mothers' occupation and mothers' education.¹²

CONCLUSION

On the basis of findings of this study, it is concluded that the concept of structured teaching programme is an effective strategy to improve knowledge and practice regarding menstrual hygiene for adolescence girls. Education programme with effective teaching strategies motivates adolescence girls to follow positive healthy practices during menstrual period. Knowledge score of the most of the adolescent girls were inadequate before providing Structured Teaching Programme. However, after introducing Structured Teaching Programme, it was significantly

increased in the post-test knowledge scores of adolescent girls. Therefore, increased knowledge would bring changes in the practice and this in turn helps to improve menstrual hygiene in adolescent girls.

RECOMMENDATION

A similar study can be done on a larger sample to generalize the study findings. A Comparative study can be done between students from urban and rural settings. Similar studies can also be conducted among adolescents' girls from different areas of the community.

LIMITATION OF THE STUDY

This was a small-scale study. The study was limited to four government schools so, the result cannot be generalized.

ACKNOWLEDGEMENT

Author would like to express the deepest appreciation to all participants who have provided enormous support and co-operation during the study.

CONFLICT OF INTEREST

There is no any conflict of interest during study.

FINANCIAL DISCLOSURE

Self-funded

REFERENCES

- Blakemore SJ, Burnett S, Dahl RE. The role of puberty in the developing adolescent brain. *Ncbi*. 2010 Jun;31(6):926-33 .doi DOI: 10.1002/hbm.21052
- Ranabhat C, Kim CB, Choi EH, Aryal A, Park MB, Doh YA. Chhaupadi culture and reproductive health of women in Nepal. *Asia Pac J Public Health*. 2015 Oct;27(7):785-95.doi doi: 10.1177/1010539515602743.
- Kumar A, Srivastava K. Cultural and social practices regarding menstruation among adolescent girls. *Soc Work Public Health*. 2011 Sep 15;26(6):594-604.doi doi: 10.1080/19371918.2010.525144.
- Shokry E, Allah A, Elsayed E, Elsabagh M. Impact of Health Education Intervention on Knowledge and practice about Menstruation among Female Secondary School Students in ZagazigCity. *J Am Sci*. 2011;7(9):737-47.Available fromhttp://www.jofamericanscience.org/journals/am-sci/am0709/095_6899am0709_737_747.pdf
- Adhikari P, Kadel B, Dhungel SI, Mandal A. Knowledge and practice regarding menstrual hygiene in rural adolescent girls of Nepal. *Kathmandu Univ Med J*. 2007 ;5(3): 382-6.Available from https://www.ncbi.nlm.nih.gov/pubmed/18604059
- Thakre SB, Thakre SS, Reddy M, Rathi N, Pathak K, Ughade S. Menstrual hygiene: knowledge and practice among adolescent school girls of Saoner, Nagpur district. *J Clin Diagn Res*. 2011 Oct 1;5(5):1027-33. Available fromhttps://www.ircwash.org/sites/default/files/Thakre-2011-Menstrual.pdf
- Khanna A, Goyal RS, Bhawsar R. Menstrual practices and reproductive problems: a study of adolescent girls in Rajasthan. *Jh management*. 2005 Apr;7(1):91-107doidoi.org/10.1177/097206340400700103
- Sreedhar M, Syed A. Practices of Menstrual hygiene among urban adolescent girls of Hyderabad. *Indian J of Bas App Med Re*. 2014 Dec;4(1): 478-86.http://ijbamr.com/pdf/December% 202014% 20478-486.pdf.
- Polit DF.Beck CT. *Nursing research and principles*.7thedi.Lippincott Williams&Wilkins;2004.
- Kothari, RC. Garg, G. *Research methodology methods and techniques* (3rd ed.). New Delhi: New Age International (p) limited. 2014.
- Handa S, Negi R. Effectiveness of Planned Teaching Programme on menstruation and menstrual hygiene in terms of Knowledge, Attitude & Practice of Adolescent School Girls in a Selected Government School of Delhi. *Inter Jlnno Res Mul Field*. 2017july;3(7) :68-69.Available From https://www.ijirmf.com/wp-content/uploads/2017/07/201707012.pdf
- Sapkota D, Sharma D, Pokharel HP, Budhathoki SS, Khanal VK. "Knowledge and practices regarding menstruation among school going adolescents of rural Nepal," *JKMC*.2014;2(3):117-121.
- Susila CS, Kumar JS, Precilla. Effectiveness of structured teaching programme on menstrual hygiene among the adolescent girls at a selected college – Pre-experimental study. *I J CN*. 2014; 1(1):7-10. Available from http://ijcn.mainspringer.com/Vol1/1_1/cn1103.pdf
- Kishore K,Rani R. A study on effectiveness of structured teaching programme on knowledge regarding menstrual hygiene among adolescent girls. *JETIR*.2018February;5(2) :1203-6.Available from http://www.jetir.org/papers/JETIR1802247.pdf
- Premila E,GaneshK,Chaitanya BL. Impact of planned health education programme on know;edge and practiceregarding menstrual hygiene among adolescent girls studying in selected high school in Puducherry.*APJR*. 2015;1(25):154-162. Available fromhttp://www.apjor.com/downloads/0605201520.pdf
- Silvia S and M Punith. Effectiveness of Structured Teaching Programme on Menstrual Hygiene among Adolescent Girls. *JCBiomedical Sciences*. 2016; 6(3): 96-99.Available from http://www.jcbsonline.ac.in/Articles/Volume6_Issue3/Brief_Research1_V5I4.pdf.
- Belayneh Z, Mekuriaw B. Knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia: a cross-sectional study.*BMC*.2019 Nov;9(1)1595. DOI:DOI: 10.1186/s12889-019-7973-9

