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Original ResearchArticle

Effectiveness of Structured Teaching Program on Menstrual Hygiene among Adolescent School Girls

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ABSTRACT

Introduction: Adolescent girls face different physical conversions, sexual changes and psychological pressures associated with growth and maturity, menstruation being one of them. Menstruation is still clouded by taboos and socio-cultural restrictions resulting in ignorance of scientific facts and hygienic health practices. Since response to menstruation depends upon awareness and knowledge about issues, menstrual hygiene education has shown to be effective in improving health by developing good knowledge, attitude and practice among adolescent girls. **Methods:** An analytical study with one group pretest – posttest design was carried out to assess the effectiveness of structured teaching program on menstrual hygiene among 100 adolescent school girls studying in a public school in Palpa. Pretested semi structured questionnaire was used to assess knowledge and practice whereas valid MAQ (Menstrual Attitude Questionnaire) was used for attitude. This was followed by structured teaching program consisting of information on menstruation, myths and hygiene. Then a posttest was conducted after a week to the same respondents. **Results:** The study resulted in statistically significant improvements (P<0.001) in total knowledge (63% to 66%), attitude (47% to 63%) and practice (43% to 49%) after implementation of the structured teaching program. There was positive correlation between knowledge and attitude scores (r=0.023), attitude and practice scores (r=0.026) and knowledge and practice scores (r=0.183). **Conclusion:** The structured teaching program is effective in improving knowledge, attitude and practice on menstrual hygiene among adolescent school girls. Thus, adding menstrual hygiene as part of curriculum may break the culture of silence.

Keywords: Attitude, Health Education, Knowledge, Menstrual hygiene, Practice

INTRODUCTION:

Menstruation is a natural and physiological process occurring in girls at first between the ages of 13 and 15 years during adolescent period.[1] It is a monthly bleeding for two to seven days every 28 to 35 days from puberty till menopause.[2] A woman spends approximately six years of her life menstruating which can potentially decide how healthy her life will be.[1]

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Adolescence is a period of transition from childhood to adulthood where changes in the pattern of thinking, attitude, moral standards and abilities take place and proper development could have a positive impact on health and quality of life.[3] This can be greatly influenced by peers, educators and parents.[4] However, most of the school going adolescent girls are unaware of the fundamental facts about menstruation and very little attention is paid to the proper management of hygiene by international health and development practitioners in most countries of the world.[2]

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Adolescents account for nearly a quarter of Nepal's population (approximately 6.4 million). Every day, an estimated 290,000 women and adolescent girls in Nepal menstruate.[1,2] Menstruation is stigmatized and constraints during menstruation are common with lack of access to affordable materials and sanitation facilities at home and school.[5] The consequence is that many girls grow up with low self-esteem and disempowerment from poor educational attainments leading to lots of inconvenience.[6]

Few studies on menstrual hygiene in Nepal show inadequate knowledge, attitude and practice in more than half of adolescent girls.[7,8,9] A variety of methods like lectures, discussions, demonstrations with multiple audio-visual aids and resources like menstrual cups, sanitary pads and washing soaps haves reported a positive impact on the awareness and menstrual practices of girls and less initiation of high risk and unhygienic behavior [10]

Thus, this study was done with the objective to find out the knowledge, attitude and practice regarding menstrual hygiene among adolescent school girls assuming significant improvement through structured teaching program.

METHODS:

This analytical study with one group pretest – posttest design was conducted among the students of classes eight and nine in a public school in Palpa, Nepal for a period of three weeks from 25th July to 15th August, 2019. Ethical clearance was obtained from Institutional Review Committee of Lumbini Medical College Teaching Hospital (IRC-LMC 03-G/019) and the official permission for the study was taken from the Principal of the school.

Out of total 122 students from classes eight and nine, 111 students fulfilling the inclusion criteria were enrolled in the study. Adolescent girls who had attained menarche, were willing to participate and present at the time of data collection were included in the study. Whereas, absenteeism and denial for consent and those included in the pretesting of questionnaires were excluded. The data was collected by self-administered pretested questionnaire before and after the intervention of structured teaching program. Content validity of the tool was done by the subject experts. Forward and backward translation was done by language expert. Eligible respondents were listed and given a serial number. Pretesting was done in Nepali language on 10 % of total samples, i.e. 11 to assess any constraints and to identify approximate time taken for completing the self-administered questionnaire. Reliability of the tool was found 0.961 through Cronbach's alpha using Statistical Package for the Social Sciences SPSS™ version 16. Without any modification on the pretested tool, the data was collected from 100 respondents using non-probability convenient sampling technique.

Pretest was conducted followed by intervention of structured teaching program for an hour in each class consisting of information on menstruation, myths and menstrual hygiene. Audio visual aids such as black board, slides, chart papers, metacards, and methods such as lecture, discussion and demonstration were used. Teaching program was conducted by the same person in both the classes. The researcher herself with the help of co-authors collected the data from class eight and nine respectively in a given time. Proper introduction of self and purpose of study was explained to the respondents. Informed consent was taken from the parents of the girls before commencement of the study. Pretest data was collected using the pretested questionnaire. Each respondent was given about half an hour for completing the questionnaire followed by a structured teaching program on menstrual hygiene for around an hour. Posttest was conducted after a week to the same respondents.

Tool: The tool consisted of four parts:

Part 1: Bio-demographic information including symptoms of Premenstrual Syndrome (PMS) defined by the respondent's experiences of any discomfort or symptoms few days before menstruation.

Part 2: Knowledge related questions (20 questions)

Part 3: Attitude related questions: A valid tool Menstrual Attitude Questionnaire (MAQ) consisting 33, 7-point Likert scale statements was used to assess the attitude on Menstrual hygiene. [11,12]

Part 4: Practice related questions (30 questions)

Statistical analysis:

The collected data was kept for coding and editing for analysis. Data was processed using SPSS version 16. Data analysis was done using descriptive and inferential statistics and expressed as frequency, percentage, mean, minimum, maximum, Standard deviation (S.D) and standard error. Inferential statistics like paired 't' test was included to test the hypothesis for effectiveness of structured teaching program and correlation was used to assess the strength and direction of relationship between variables.

Scoring system:

For knowledge and practice questions, each right answer was given 1 mark and the wrong answer was given 0. For attitude related 7 point Likert scale questions, out of 33 statements, 11 negative statements were reverse scored. Equal and above mean score was considered as adequate knowledge and practice with good attitude whereas low mean score was considered as inadequate knowledge and practice with poor attitude.

RESULTS:

A total of 100 girls from classes eight and nine were enrolled into the study. The mean age ±SD was 14.45±1.23 years with a range of 12-17 years. The mean age ±SD of menarche was 12.59±1.17 years with a range of 11-19 years. The mean length of cycle ±SD was 1.06±0.239 days.

Table 1 shows the menstrual parameters of the respondents. The pretest and posttest scores of knowledge, attitude and practice regarding menstrual hygiene are shown in Table 2. This shows the minimum and maximum scores were increased in posttest as compared to the pretest. The effectiveness of structured teaching program of pretest and posttest knowledge, attitude & practice scores regarding menstrual hygiene was analyzed with paired t test (Table 2). The difference in means for knowledge, attitude and practice were statistically significant (t=12.684, df=99, p-value <0.001), (t=9.913, df=99, p-value <0.001) and (t=11.547, df=99, p-value <0.001) respectively. Therefore, we rejected the null hypothesis and concluded that giving teaching program on menstrual hygiene was effective.

Table 1. Findings Related to Menstrual Pattern (N=100)

Variables		Frequency (%)
Heard about menstruation	Yes	100 (100)
if yes: Source of information*	Mother	85 (88.50)
	Sister	25 (26.00)
	Friends	28 (29.20)
	Relatives	5 (5.20)
	Teachers	28 (29.20)
	Books	22 (22.90)
Presence of PMS	Yes	75 (75)
	No	25 (25)
Reaction to first menstruation	Indifferent	17 (17)
	Scared	36 36)
	Discomfort	47 (47)
Problems associated with menstruation	Yes	82 (82)
	No	18 (18)
If yes, what is the problem?*	Pain abdomen	50 (72.50)
	Backache	20 (29)
	Headache	13 (18.80)
	Chest pain	6 (8.70)
	Nausea	7 (10.10)

**Multiple response*

Table 2: Knowledge, Attitude and Practice Regarding Menstrual Hygiene (N=100)

Variables		Min score	Max score	Mean ±SD	95% CI of the difference	Statistics
Knowledge	Pretest	10	26	19.84 ±3.29	4.18-5.74	t=12.684, df=99, p=<0.001
	Post test	16	30	24.80 ±2.37		
Attitude	Pretest	59	176	118.47 ±25.67	23.30-34.96	t=9.913, df=99, p=<0.001
	Post test	100	192	147.60 ±18.12		
Practice	Pretest	2	19	14.13 ±2.28	2.63-3.72	t=11.547, df=99, p=<0.001
	Post test	12	20	17.30 ±1.63		

Table 3 depicts the level of pretest and posttest score of knowledge, attitude and practice. This shows more subjects had increased knowledge with good attitude and practice in posttest.

Table 3. Comparison of Level of Pretest and Posttest (N=100)

Variables	Level	Pretest	Posttest
Knowledge	Adequate	63	66
	Inadequate	37	34
Attitude	Good	47	66
	Poor	53	34
Practice	Adequate	43	49
	Inadequate	57	51

On analysis by Pearson correlation, there was negligible positive correlation between the knowledge and attitude scores (r=0.023, p=0.822), attitude and practice scores (r=0.026, p=0.797) and knowledge and practice scores (r=0.183, p=0.068) though it was not proved significantly.

Figure 1: Correlation between knowledge and practice (N=100)

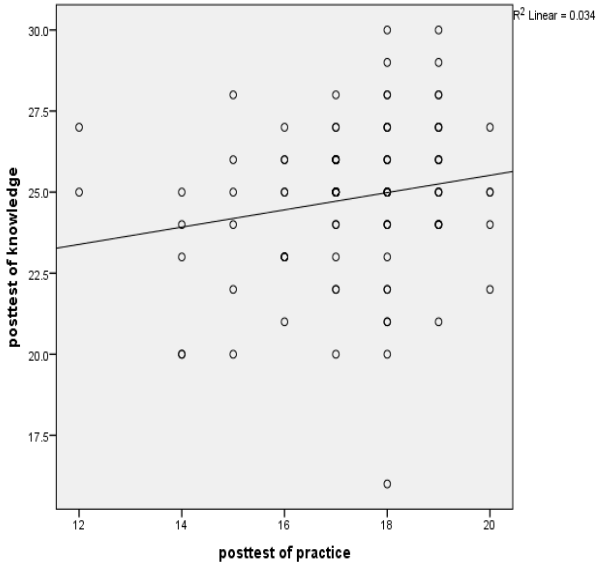

Figure 1 shows the scatter plot for the correlation between knowledge and practice. Thus, we can conclude that increment in knowledge could slightly improve attitude and practice. Similarly, increment in attitude slightly improved practice.

DISCUSSION:

In this study, 30% of the students were 14 years with mean age of 14.15±1.23 years which is in accordance to another study.[6] This study showed more than half (64%) studied in class nine. The same result was displayed in another study.[13] Almost all (96%) followed Hindu religion, supported by the study which showed similar results.[14] This study revealed majority of the respondent's parents were farmers in contrast to the study which revealed they were self-employed.[15]

Twenty six percent of the respondents had female siblings where more than half of the respondents (62%) were the first child of their parents. This finding was consistent with the study of Vandana et al. where almost half (48%) were first in their birth order.[16] This study showed that all girls had heard about menstruation similar to the study conducted by Fehintola et al. (96%).[17] Half of the respondents gained information from their mother supported by the studies which showed their mother as a main informant source.[6,14] Majority (43%) of the respondents attained menarche at the age of 12 years with mean ±SD of 12.59±1.17years. Similar result was shown in another study.[18] Most of the respondents had regular pattern of menstruation similar to a study where 90% of the respondents had their menstrual cycle length of 21 to 35 years of age. [6]

Majority of the respondents (94%) had normal duration of menstrual flow of 2-7 days congruent to the study which revealed more than fifty percent of the girls had normal duration of menstrual flow.[19]Our study showed three quarters of the respondents experienced PMS resembled by the study of Fehintola et al.[17] It was observed that almost half of the respondents (47%) felt discomfort during their first menses contrary to the study where girls were scared and depressed.[17]This study demonstrated that 82% of the respondents faced problems during menstruation and stomachache (54%) was the commonest problem among all. The findings are similar to the study which revealed 82% of the respondents had crampy lower abdominal pain.[6]

This study showed statistically significant difference between the pre-test and post test scores of knowledge, attitude and practice regarding menstrual hygiene. Similar result was shown in another study.[20] The level of knowledge, attitude and practice regarding menstrual hygiene of respondents who participated in educational program was significantly better in our study alike

study conducted by other authors.[7] It was found that most of the subjects had inadequate knowledge (37%) and average attitude (53%) and practice (57%) during pre-test. But, after structured teaching program session, most of the respondents had better knowledge (66%), attitude (66%) and practice (49%) in post-test with high significance (p=<0.001) This implies that in our study, structured teaching program was effective to improve the knowledge, attitude and practice of adolescent girls regarding menstrual hygiene which is coherent to the studies that showed the similar results.[3,10,21] A review of literature shows an increase in knowledge does not always cause behavior to change. But this study has shown that it is extremely necessary in changing some health behaviors and shape attitude with the practice which can be obtained through correct form of teaching programs. The present study showed there was weak positive correlation between knowledge and attitude scores (r=0.023), attitude and practice scores (r=0.026) and knowledge and practice scores (r=0.183) which was consistent with the study findings of another study.[22]

The study has a few limitations to be considered. Although data were prospectively collected, they may not be generalized. A comparative study could be conducted between private and public schools with more respondents.

CONCLUSION:

The findings of the study illustrated that roughly half of the adolescent girls have good knowledge, attitude and practice on menstrual hygiene among adolescent girls, which indicates that there is still a lack. Thus, designing and implementing health educational programs about menstrual hygiene and correction of misconceptions among adolescent girls are necessities.

Conflict of interest: The authors declares that no competing interests exist

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REFERENCES:

1. Ameade EP, Garti HA. Relationship between Female University Students' Knowledge on Menstruation and Their Menstrual Hygiene Practices: A Study in Tamale, Ghana. Adv Prev Med. 2016;2016(Article ID:1056235):1-10. PMID:27525125. DOI: https://doi.org/10.1155/2016/1056235

2. Pokhrel S, Mahantashetti N, Angolkar M, Devkota N. Impact of health education on Knowledge, Attitude and Practice Regarding Menstrual Hygiene among Pre University Female Students of a College Located in Urban Area of Belgaum. IOSR Journal of Nursing and Health Science. 2014;3(4):38–44. Available from: https://www.iosrjournals.org/iosr-jnhs/papers/vol3-issue4/Version-1/I03413844.pdf

3. Alam M-U, Luby SP, Halder AK, Islam K, Opel A, Shoab AK, et al. Menstrual hygiene management among Bangladeshi adolescent schoolgirls and risk factors affecting school absence: results from a cross-sectional survey. BMJ Open. 2017;7(7):e015508. DOI: http://dx.doi.org/10.1136/bmjopen-2016-015508

4. El-Mowafy RI, Moussa MMM, El-Ezaby HH. Effect of Health Education Program on Knowledge and Practices about Menstrual Hygiene among Adolescents Girls at Orphanage Home. IOSR Journal of Nursing and Health Science. 2014;3(6):48–55. Available from: http://iosrjournals.org/iosr-jnhs/papers/vol3-issue6/Version1/J03614855.pdf

5. Kuhlmann AS, Henry K, Wall LL. Menstrual Hygiene Management in Resource-Poor Countries. Obstet Gynecol Surv. 2017;72(6):356-76. PMID: 28661550. DOI: https://doi.org/10.1097/OGX.0000000000000443

6. Kapoor A, Khari S. Knowledge, Attitude and Socio-cultural Beliefs of Adolescent Girls towards Menstruation. Journal of Nepal Paediatric Society. 2016;36(1):42–9. DOI: https://doi.org/10.3126/jnps.v36i1.14386

7. Karki S, Rajbhandari AK, Dahal M, Shahi P, Sharma S. Knowledge and practice on menstrual hygiene among adolescent girls of selected slums in Kathmandu valley. Journal of Patan Academy of Health Sciences. 2018;5(2):114-122. DOI: https://doi.org/10.3126/jpahs. V5i2.24031

8. Blake S, Boone M, Kassa AY, Sommer M. Teaching Girls About Puberty and Menstrual Hygiene Management in Rural Ethiopia: Findings From a Pilot Evaluation. Journal of Adolescent Research. 2018;33(5):623–46. DOI: https://doi.org/10.1177%2F0743558417701246

9. Yadav RN, Joshi S, Poudel R, Pandeya P. Knowledge, Attitude, and Practice on Menstrual Hygiene Management among School Adolescents. Journal of Nepal Health Research Council. 2018;15(37):212-6. DOI: https://doi.org/10.33314/jnhrc.v15i3.1164

10. Rastogi S, Khanna A, Mathur P. Educational interventions to improve menstrual health: approaches and challenges. Int J Adolesc Med Health. 2019;eISSN 2191-0278. PMID: 31136299. DOI: https://doi.org/10.1515/ijamh-2019-0024

11. Roos K. An investigation into the attitudes of male undergraduate students towards menstruation: The psychometric properties of the Menstrual Attitude Questionnaire. University of The Western Cape: Faculty of Community and Health Sciences;2018. Available from: http://etd.uwc.ac.za/xmlui/bitstream/handle/11394/6702/roos_ma_chs_2018.pdf?sequence=1&isAllowed=y

12. Bargiota SI, Bonotis K, Garyfallos G, Messinis IE, Angelopoulos NF. The Psychometric Properties of Menstrual Attitudes Questionnaire: A validity Study in Greek Women. International Journal of Innovative Research in Science, Engineering and Technology. 2016;5(2):1754–65. DOI: https://doi.org/10.15680/IJIRSET.2016 .0502109

13. Jarrah SS, Kamel AA. Attitudes and Practices of school-aged girls towards menstruation. Int J Nurs Pract. 2012;18(3):308–315. PMID: 22621303. DOI: https://doi.org/10.1111/j.1440-172X.2012.02032.x

14. Parajuli P, Paudel N, Shrestha S. Knowledge and practices regarding menstrual hygiene among adolescent girls of rural Nepal. Journal

of Kathmandu Medical College. 2017;5(1):23-7. DOI: https://doi.org/10.3126/jkmc.v5i1.18262.

15. Anusree PC, Ardra R, Aswathy BS, Faseela VCM, Gincy PB, Anupama T. Knowledge Regarding Menstrual Hygiene among Adolescent Girls in selected schools, Mangalore with a View to Develop an Information Booklet. IOSR Journal of Nursing and Health Science. 2014;3(1):55–60. Available from: http://www.iosrjournals.org/iosr-jnhs/papers/vol3-issue1/Version-4/J03145560.pdf

16. Vandana V, Simarjeet K, Amandeep K. Assessment of knowledge of adolescent school going girls regarding menstruation and menstrual hygiene. International Journal of Applied Research. 2016;2(9):240–46. Available from: http://www.allresearchjournal.com/archives/2016/vol2issue9/PartD/2-8-127-870.pdf

17. Fehintola FO, Fehintola AO, Aremu AO, Idowu A, Ogunlaja OA, Ogunlaja IP. Assessment of knowledge, attitude and practice about menstruation and menstrual hygiene among secondary high school girls in Ogbomoso, Oyo state, Nigeria. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2017;6(5):1726-32. DOI: https://doi.org/10.18203/2320-1770.ijrcog20171932

18. Premila E, Ganesh K, Chaitanya BL. Impact of planned health education programme on knowledge and practice regarding menstrual hygiene among adolescent girls studying in selected high school in Puducherry. Asia Pacific Journal of Research. 2015;I(XXV):154-62. Available from: https://apjor.com/downloads/0605201520.pdf

19. Hema PS, Nandi P, Seetharaman N, Ramya MR, Nishanthini N, Lokeshmaran A. A study of menstrual hygiene and related personal hygiene practices among adolescent girls in rural Puducherry. International Journal of Community Medicine and Public Health. 2017;4(7):2348-55. DOI: https://doi.org/10.18203/2394-6040.ijcmph20172822.

20. Kaur K, Vadivukkarassi P, Bala K. A Pre-Experimental Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Menstrual Hygiene Among Adolescent Girls in Selected Schools of Mohali, Punjab. International Journal of Nursing Education and Research. 2014;2(4):362–68. Available from: http://ijneronline.com/AbstractView.aspx?PID=2014-2-4-20

21. Santhanakrishnan I, Athipathy V. Impact of health education on menstrual hygiene: An intervention study among adolescent school girls. International Journal of Medical Science and Public Health. 2018;7(6):468:73. DOI: https://doi.org/10.5455/ijmsph.2018.0307920032018

22. Mahajan A, Kaushal K. A descriptive study to assess the knowledge and practice regarding menstrual hygiene among adolescent girls of Government School of Shimla, Himachal Pradesh. CHRISMED Journal of Health and Research. 2017;4(2):99-103. Available from: http://www.cjhr.org/text.asp?2017/4/2/99/201983