IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 5, Issue 3 Ver. V (May. - Jun. 2016), PP 12-21
www.iosrjournals.org

Promotion Awareness Level and Practice about Menstruation of Rural Preparatory School Girls

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Background: *The onset of menstruation in adolescence is a phenomenon that signals reproductive maturity and should not be seen as an abnormal condition or disease. Adolescent girls often do not receive accurate information about menstrual health because of culturally specific practices that lead to incorrect and unhealthy behaviors.*
Aim: *The aims of the study were to assess and improve the awareness level and practice of rural preparatory schoolgirls about menstruation and to evaluate the effectiveness of educational program about menstruation on girls.*
Subjects and methods: *A sample of 600 school-age girls (12-16 years) at Assuit city. They were selected by random method and were attending rural preparatory schools.*
Design: *A pre/post quazi-experimental design was adopted in this study*
Tools: *A self-administrated questionnaire and health education Arabic handout were used as a tool for data collection.*
Results: *Data results revealed that the mean age of girls was 14.25 ± 1.53 years, (83.3%) of girls reported that their friends was the main source of information about menstruation. there was significant difference in their level of knowledge on menstruation (p<<0.000). there is a highly statistical significant difference (p= <0.000) was detected between girls' practice in pre and post two months health education implementation. It was observed from the reactions given by the respondents on seeing the advertisement of sanitary pads on television that (39.0%) of girls said that they felt shy to see the advertisements in front of male members of the family.*
Conclusion: *The study concluded those girls' 'awareness level and practice has been improved after exposure to the program.*
Recommendations: *The study recommended that a well-informed continuous, school education programme should be imparted to the students. Further, emphasis also needs to be given through workshops and seminars on adolescent reproductive health*
Keywords: *assessment and promotion, awareness level and practice, menstruation, rural schoolgirls.*

I. Introduction

Adolescence is the period of transition from childhood to adulthood. WHO has defined adolescence as the age group of 10-19 years? The onset of menstruation is one of the most important changes occurring among girls during the adolescent years. Menstruation is still regarded as something unclean or dirty in the rural society. Because of various myths, misconceptions and restrictions practiced during menstruation, the adolescent girls often develop negative attitudes towards this natural physiological phenomenon **(Ganguli, 2003)**.

Although menstruation is a universal phenomenon experienced by almost all girls, and is a natural phenomenon that occurs throughout the reproductive years of every girl, and influenced by physiological and pathological events that occur throughout the life time of the girl, it is still poorly understood and considered a taboo thus preventing individuals to speak about it **(Neşe, 2013).** Taboos about menstruation are nearly universal, a wide range of distinct rules for conduct during menstruation with meanings that are "ambiguous and often multivalent **(Al-Kindi and Al-Bulushi, 2011).**

Girls may be unfamiliar with what is normal and may not inform their parents about menstrual irregularities or missed menses **(Diaz et al., 2006)**. Menstruation can be conceptualized as a stigmatized condition that both reflects and reinforces girl's perceived lower status in relation to men. Feminist scholars extend this theory to explain negative attitudes towards girl's bodily functions.Such stigmatization occurs when menstrual blood is viewed as one of the "abominations" of the body and reflects a gendered identity among women, which leads to consequences for women's psychological and sexual well-being **(Shanbhag et al., 2012)**.

The onset of menstruation in adolescence is a phenomenon that signals reproductive maturity and should not be seen as an abnormal condition or disease. Adolescent girls often do not receive accurate information about menstrual health because of culturally specific practices that lead to incorrect and unhealthy behaviors **(Moloud et al, 2012)**. Menstruation has important implications on the physical and emotional wellbeing of adolescents' reproductive health. The way girls perceive menstruation has an effect on their own body image, gender identity, self-acceptance, sexual and health behavior **(Çevirme et al., 2010)**.

Most of the girls believe that menstruation affects their performance negatively and recently many girls refuse to join physical activities during menstruation. Most girls who are professional or non professional probably form their attitudes toward menstruation and sport in their elementary school classes **(Neşe, 2013)**. Most girls experience some degree of pain and discomfort in their menstruation period, which could have important impacts on their daily activities, and disturb their productivity at home or at their work place **(Wong and Khoo, 2011)**.

Menstrual hygiene is the personal hygiene during menstruation. It includes bathing daily for comfort, using clean, dry absorbent material and disposal of used pads/material in clean environmentally acceptable , safe methods and to feel fresh, keep perieneal area clean from anterior to posterior **(Eswi et al, 2012)**. Menstrual hygiene, a very important risk factor forreproductive tract infections, is a vital aspect ofhealth education for adolescent girls.Hygiene relates practices of schoolgirls during menstruationare of considerable importance, as it has a healthimpact in terms of increased vulnerability toreproductive tract infections **(Shokry et al, 2012).**

This is likely to result in a change in hygiene patterns during menstruation for girls. So that young girls should be aware of areas of special concern include choice of the best "period protection bathing care of the vulva Provisions for good menstrual hygiene include home-made pieces of cotton cloth which are either placed on a girl's undergarment **(Haber and Wood, 2010).** In addition, **Adinma2008** reported that faulty perceptions or misconception on menstruation and menstrual cycle will lead to faulty menstrual practices. Menstrual education is a vital aspect of health education.

Significance of the study:- adolescents who experienced menstruation for the first time, menstrual hygiene management is constrained by practical, social, economic and cultural factors such as the expense of commercial sanitary pads, lack of water and latrine facilities, lack of private rooms for changing sanitary pads, and limited education about the facts of menstrual hygiene.

Majority of the girls lack scientific knowledge about menstruation and puberty. So that young girls should be aware of areas of special concern include choice of the best "period protection bathing care of the vulva Provisions for good menstrual hygiene include home-made pieces of cotton cloth which are either placed on a girl's undergarment and because a lot of researches has been conducted in urban areas . This difference could be explained by the fact that the proportion of urban residents could have accessible reproductive health care service, and better decision making autonomy than rural female students. In addition, this inconsistency might also be attributable to the difference in implementation of relevant health intervention programs.

Adolescent rural females in schools may have their own attitude toward menstrual cycle; this attitude may be affected by cultural perspective, lack of knowledge, and embarrassment to speak about this normal phenomenon with their mothers at home or others. And they often are reluctant to discuss this topic with their parents and often hesitate to seek help regarding their menstrual problems. Unhygienic menstrual practices may affect their health such as increased vulnerability to RTIs (Reproductive Tract Infections) and PIDs (Pelvic Inflammatory Diseases) and other complications. So that all mothers should make their daughters aware of menstruation even before they could attain menarche and girls should be educated about "menstruation and healthy menstrual practices through expanded programme of health education in schools. Addressing menstrual hygiene management directly contributes to improve girl's health. Thus, the objective of the study is to assess the knowledge, attitudes and practice of schoolgirls.

Aim of the study

The aim of this study is to assess and promote the awareness level and practice of preparatory schoolgirls about menstruation and to evaluate the effectiveness of health education about menstruation on girls.

Research questions:

- What is the awareness level about menstruation among rural preparatory school girls?
- What is the practice of the rural preparatory school girls during menstruation?
- What is the effectiveness of educational program about menstruation on girls?

II. Subjects and Methods

This study is conducted in Assuit Governorate, which is located in Lower Egypt and is divided into 11 districts (that is, Assuit, Manflot, Dieroot, El-qosea, Abnoob, Sahel seleem, Abo-Teeg, El- ghaniem, Sedfaa, El-

fateh and El- badary). The study population of this research consisted of Preparatory school students. Student subjects were chosen using a multistage stratified sample of 600 children aged 12 to 16 years attending first, second and third grade of three rural preparatory public schools from the Manflot Educational District (one out of the eleven educational districts). In each school, two classes were randomly selected from each grade, where students were enrolled after official and parental approval was granted. The sample of 600 school girls were included who accepted to participate in the current study. After collection of the questionnaire, health education regarding "menstruation and healthy menstrual practices" was imparted to the girls through lectures with the help of audio-visual aids. This was followed by question-answer session to clarify their doubts. After two months, the same questionnaire was again administered to the students (post-test) to assess the impact of health education.

Research design:-
A pre/post quazi-experimental design was adopted in this study.

Tools of data collection:
- A structured questionnaire: was used as a tool for data collection; it included personal data related to age, residence, educational level, and the girls 'awareness level and practice about menstruation. The questionnaire included also variables on menstrual hygiene materials and knowledge about menstrual hygiene management such as the use of sanitary materials, frequency at which sanitary pads should be changed

Scoring system:
Scores were used to evaluate participant's awareness and practice about menstruation. Questions were scored as followed 1 marks for correct answer and 0 marks for wrong or no answer. The total score of each aspect was score above (≥65%) is considered good, score between 50%- <65% considered fair and score less than50% was considered poor.
-health education Arabic handout: It was constructed by the researchers after reviewing the related literature which based on girls 'awareness level and practice about menstruation .according to deficit needs about menstruation.

Pilot study:
It was carried out on 10 % of the mothers and their children, for the purpose of modification and clarification**.** The designed tool was tested on those mothers and their children, who fulfilled the inclusion criteria to evaluate the content of the tools and to estimate the time required to fill in the sheets. Unclear items were clarified, unnecessary items were omitted and new variables were added.

Statistical design:
The data obtained were reviewed, prepared for computer entry, coded, analyzed and tabulated. Data entry and analysis were done using SPSS 17.0 statistical software package. Data were expressed as mean, SD and number, percentage. Using Manwhitiny test to determine significant for numeric variable using Chi. Square to determine significance for non-parametric variable. Using paired T test for comparison between pre, post and follow up. Using person's correlation for numeric variable in the same group, $P > 0.05$ no significant, $P < 0.05$ significant, $P < 0.01$ moderate significant and $P < 0.001$ highly significant

Ethical consideration:
Each girl was informed with the nature, process and expected outcomes of the study. The researcher explained to the girls the purpose of the study and that all data will be confidential and used only for research purpose. All rights were given to the subjects to complete or withdraw from the study at any time. An approval was obtained from school authorities. Objective of the study and its implication were explained to both schools administrators and the students. An oral consent was obtained from students who were willing to participate in the study and attained menarche.

Field work:
Data was collected from September 2015 to January 2016. The school was first clustered in to grades & sections and then participants were selected by random method. The school authorities were contacted and informed about the nature and objective of the study. After obtaining the permission from the school authorities, the investigators visited the school as per pre-planned schedule for interviewing the adolescent girls. The adolescent girls were explained about the purpose of the study, and assured of confidentiality.

The oral consent was taken from each participant. The researcher with the help of one of the teachers was introduced herself to the students and the purpose of the visit and the way of the interview was explained to

them. A direct interview was done by the researcher herself with students and using a questionnaire composing of questions regarding knowledge and practice during menstruation, which took around 30 -45 minutes.

All of the questionnaires were distributed and collected on the same day trying to maintain the confidentiality of the collected data. A questionnaire was designed by the authors and was initially tested on 10 schoolgirls with the similar characteristics of the main study subjects for construct and content validity. To develop the main questionnaire, the questionnaires items included source of information about menstruation and role of nutrition, exercise and physical activity, personal hygiene, use of medication, absenteeism from school.

III. Results

Table (1) showed personal characteristics showed that more than two thirds (70.0 %) of the schoolgirls were < 15 years, where the mean age of them was 14.25 ± 1.53 years, all of them (100. 0%) were from rural areas. As regards menstrual interval, the interval was reported to be <28days by 243 (57.0%) of girls. In the study, it was observed that out of 600 girls, 432 (72.0%) had attained menarche at the age of the respondents was 12-14 years.

Table (2): Clarifies that 500 (83.3%) girls reported that their friends was the main source of information about menstruation. Other sources of information were mothers 290 (48.3%), school or class 130 (21.6%), nurse 6 (1.0%), Physician 12 (2.0%), Health education in society 90 (15.0) and T.V 20 (3.3%).

Table (3) shows the knowledge regarding menstruation among adolescent school girls. In the pre-test stage, 450 (75.0%) girls felt that menstrual blood is impure, The knowledge regarding the organ from where menstrual blood comes was correctly reported as uterus by 60 (10.0%) girls whereas 180 (30.0%), 300 (50.0%), and 120 (20.0%) reported vagnia, urethra, and don't know respectively. 350 (58.3) revealed that excessive bleeding lead to anemia in the pre test while in the post-test, majority of them (95.0%) said that excessive bleeding lead to anemia. 474 (79.0%) girls felt that there was an influence of hot and cold foods on menstrual flow while in the post-test, there was significant difference in their level of knowledge on menstruation ($p<<0.000$).

Findings in Table 4 show the menstrual restrictions followed by the girls during menstruation. In the pre-test phase, 600 (100%) reported that they do not visit holy places during menstruation and 520 (86.6%) girls reported that they are kept in isolation at home during menses. In the post-test phase, no significant difference was seen with regard to the restrictions followed by them as regard doing household activities during menses ($p>0.05$). In the pre-test period, only 160 (26.6%) girls reported that they wash their genitalia with soap and water whenever they change their cloths/sanitary pads whereas in the post-test period, significant improvement was observed in their menstrual restrictions ($p<0.000$) as regard washing genitalawith soap and water.

Table (5) illustrated that, there was highly statistical significant difference between girls' knowledge level as pre and post health education implementation regarding to menstruation ($P=<0.000$). It's clear from the results that there was a highly statistical significant difference ($p= <0.000$) in the girls' total knowledge level mean scores as pre and post health education implementation.

Table (6) revealed that out of the 600 girls, in the pre-test period, (40.0 %) of girls used sanitary pads during menses while increased in the post phase to (75.0%). For drying the cloths, in the pre-test period, only (57.0%) girls sundried their cloths which increased to (98.0%) in the post-test phase. It is seen that in the pre-test phase, (64.0%) girls washed their cloths only with water and (36.0%) washed their cloths with soap and water which in the post test phase, increased to (90.0%) girls washing their cloths with soap and water. With regard to the final disposal off the used cloths, in the pre-test period, (63.0) of girls Washed clothes and dry it in sun, (10.0%) girls burnt it, (32.0%) girls threw it in routine waste, In the post-test period, (60. 0%) girls reported that they threw the used cloths in the in routine waste. In the pre-test phase, (65.0%) girls reported that they changed the pad only twice a day while in the post-test it decreased to (15.0%) there by showing improved menstrual hygiene and practice following health education. In the post-test period, significant improvement was observed in their menstrual practice ($p<0.000$).

Table (7) indicated that there is a highly statistical significant difference ($p= <0.000$) was detected between girls' level of practice in pre and post health education implementation.

Table (8) revealed that there was highly statistically significant relation between girls' total knowledge scores and their practice at post and after two months health education implementation ($P=0.005$).

Table 9 shows the reactions given by the respondents on seeing the advertisement of sanitary pads on television. 234 (39.0%) girls said that they felt shy to see the advertisements in front of male members of the family while 162 (27.0%) girls felt these were no reaction, 114 (19.0%) girls felt embarrassed and 90 (15.0%) girls reported that such advertisement should be banned.

IV. Discussion

In the present study, It showed that more than two thirds (70.0 %) of the schoolgirls were < 15 years, where the mean age of them was 14.25 ± 1.53 years. In the present study, the menstrual interval was reported to be <28days by 243 (57.0%) of girls, these results was near to the results conducted by **(Dipali, 2010)** who

mentioned that the intermenstrual interval was 28-30 days by 83 (42.13%) girls. This could be because of changing trends in lifestyle, dietary habit, stress, hormonal imbalance or some medical reasons which requires gynaecological assessment at the earliest. This study also was in disagreement with the study conducted by **(Rajni et al, 2009)** among tribal Gujjar adolescent girls, only 9.9 percent of the subjects had their menstrual cycle between 45-60 days which is much lower than the figure in the present study.

In the current study, it was observed that out of 600 girls, 432 (72.0%) had attained menarche at the age of the respondents was 12-14 years. and in a recent study conducted in Egypt **(Yassin, 2012)** and\ **(Abd El-Hameed, 2011)** who reported that the mean age at menarche among Egyptian female adolescents was12.87±1.29 years. And this results was in agreement with the study conducted by **(Dipali, 2010)** who revealed that the mean age of menarche of the adolescent school girls was 13.32 years whereas the study conducted in Singur, West Bengal, and the mean age at menarche was found to be 12.8 years **(DASGUPTA, 2008)** .

In the present study clarifies that, 500 (83.3%) girls reported that their friends was the main source of information about menstruation, other sources of information were mothers 290 (48.3%), this could be due to lack of proper communication between mother and daughter owing to traditional taboos, they feel shy and embarrassed to discuss on this subject. So the ideally, all mothers should make their daughters aware of menstruation even before they could attain menarche. and also in Meghalaya district of India involving 100 adolescent girls in a study was done by **(Bayray, 2012)** which friends formed (50%) as the main contributors for getting the knowledge followed by mothers (36%) and aunts/relatives (19%). these finding was not in accordance with the results reported by (**Sapkota et al.**, **2013**) that majority were informed by mothers This study was not similar to the study conducted by **(Parvathy et al, 2007)** who reported that 41 per cent of the girls received information about menstruation from their mothers, 22.4 per cent got information from their elder sisters, 21 per cent from their friends, 4.4 per cent from television and 3.3 per cent of the girls got information from books. And also was in disagreement with another study conducted by **(Deo et al, 2005)** among urban girls, mother was reported as the main source of information on menstruation for 27.5 per cent of the girls whereas it was a teacher for their rural counterparts (27.01%).

In the present study the knowledge regarding menstruation among adolescent school girls in the pre-test stage, 450 (75.0%) girls felt that menstrual blood is impure, this study was in accordance with he stydy conducted by **(Dipali, 2010)** who said in the pre-test menstrual perceptions among girls were found to be poor and practices were often incorrect. 157 (72.35%) girls felt that "menstrual blood is impure." This is almost similar to (73.1%) girls reporting menstruation as "release of bad blood" in a study conducted by **(Adinma, 2008)** among Nigerian secondary school girls.

The knowledge regarding the organ from where menstrual blood comes was correctly reported as uterus by 60 (10.0%) girls whereas 180 (30.0%), 300 (50.0%), and 120 (20.0%) reported vagnia, urethra, and don't know respectively. this study was in disagreement with the study conducted by **(Adhikari et al, 2007)** among the rural adolescent girls of Nepal, 25.3 per cent of the girls reported uterus as the organ from where the bleeding comes whereas 32 percent, 26.7 per cent and 16 per cent said the fallopian tube, vagina and urinary bladder respectively from where the menstruation blood comes. This shows the low level of knowledge among girls about female anatomy. Also the topic is least talked by girls as they feel uncomfortable and shy.

In the present study, 350 (58.3) revealed that excessive bleeding lead to anemia in the pre test while in the post-test, majority of them (95.0%) said that excessive bleeding lead to anemia. and 474 (79.0%) girls felt that there was an influence of hot and cold foods on menstrual flow, As regard influence of diet on menses, he current study revealed that, (88.0) of girls said the diet has an influence on menses. Since the appropriate diet such as fruits, vegetables and corns, along with avoiding too much salt and sugar are useful in pain reduction in menstrual period, the necessity of educating girls about appropriate nutrition and diet is sensible **(Rajani, et al., 2009)**.In the present study, in the post-test, there was a highly significant difference in their level of knowledge on menstruation ($p<<0.000$). This study was in accordance with the study conducted by **(Dipali, 2010)** who said in the post-test, there was a significant difference in the level of knowledge ($P<0.01$).

The current study showed that the menstrual restrictions followed by the girls during menstruation where 600 (100%) reported that they do not visit holy places during menstruation, and 520 (86.6%) girls reported that they are kept in isolation at home during menses. This shows the influence of socio-cultural beliefs and taboos regarding menstruation among these girls. Even literate females find it difficult to go against the restrictions, owing to such strong socio-cultural beliefs and practices.

The current study revealed that, in the post-test phase, no significant difference was seen with regard to the restrictions followed by them as regard doing household activities during menses ($p>0.05$).

In the present study, during the pre-test period, 160 (26.6%) of girls reported that they wash their genitalia with soap and water whenever they change their cloths/sanitary pads whereas in the post-test period, significant improvement was observed in their menstrual restrictions ($p<0.000$) as regard washing genitalawith soap and water. These results were near to the results conducted by **(Singh, 2009)** who mentioned that, only 59 (29.95%)

girls reported that they wash their genitalia often with soap and water whenever they change their cloths or sanitary pads where as following health education. in the post-test period, there was significant improvement in the menstrual practice (P<0.01).

The current study illustrated that, there was highly statistical significant difference between girls' knowledge level as pre and post health education implementation regarding to menstruation (P=<0.000). It's clear from the results that there was a highly statistical significant difference (p= <0.000) in the girls' total knowledge level mean scores as pre and post health education implementation.

The present study revealed that out of the 600 girls, in the pre-test period, (40.0 %) of girls used sanitary pads during menses this is may due to non affordability of sanitary pads, these results were not in agreement with other study conducted by **(Adinma, 2008)** among Nigerian school girls, amongst materials used as menstrual absorbent, toilet tissue paper was most commonly used (41.31%) followed by sanitary pads (32.7%), cloths (14.4%) and multiple materials (10.7%) was used by the girls. As regard drying the cloths, in the pre-test period, only (57.0%) girls sundried their cloths which increased to (98.0%) in the post-test phase. In a study conducted by **(Dipali, 2010)** in the pre-test period, only 5 (4.27%) girls sun-dried their cloths which increased to 37 (31.62%) in the post-test period.

It is seen in the current study that in the pre-test phase, (64.0%) girls washed their cloths only with water and (36.0%) washed their cloths with soap and water which in the post test phase, increased to (90.0%) girls washing their cloths with soap and water. In a study conducted by **(Dipali, 2010)** 60 (51.28%) girls washed their cloths only with water and 57 (48.72%) washed their cloths with soap and water which in the post test phase, increased to 102 (87.18%) girls washing their cloths with soap and water. With regard to the final disposal off the used cloths, in the pre-test period, (63.0) of girls Washed clothes and dry it in sun, (10.0%) girls burnt it, (32.0%) girls threw it in routine waste, In the post-test period, (60. 0%) girls reported that they threw the used cloths in the in routine waste. In a study conducted by **(Dipali, 2010)** In the post-test period, 84 (71.80%) girls reported that they threw the used cloths in the dustbin. The current study revealed that high percentage (65.0%) of girls changed the pad only twice a day while in the post-test it decreased to (15.0%), In a study conducted by **(Dipali, 2010)** 68 (40.96%) girls reported that they changed the pad only twice a day while in the post-test it decreased to 11 (6.62%) there by showing improved menstrual hygiene and practice following health education.

The current study revealed that in the pre test (49.0) percent of the school girls reported that they not practice any kind of exercise during menstruation and was not in agreement with the results of (**Rajani, 2009)**.who stated that majority of participants (89%) not practicing any kind of exercise, this is because of fear that participation in strenuous exercise might harm their reproductive organs, and she cannot compete successfully in sports because their menstrual blood might "stain" the playing fields. In the pre-test phase, (65.0%) girls reported that they changed the pad only twice a day while in the post-test it decreased to (15.0%) there by showing improved menstrual hygiene and practice following health education. In the post-test period, significant improvement was observed in their menstrual practice (p<0.000).

In this study, 75% school girls stated that they were absent from school during menstruation, it was in agreement with other study supported by **(Esimai and Esan, 2010)** who stated that girls also reported that menstruation is the leading cause of absenteeism of women from work, school, and other activities, it may be related to fears about bleeding in front of the rest of the class and too much embarrassment are the main causes of those fears. The present study indicated that, there is a highly statistical significant difference (p= <0.000) was detected between girls' level of practice in pre and post health education implementation.

The present study revealed that, there was highly statistically significant relation between girls' total knowledge scores and their practice at post and after two months health education implementation (P=0.005).

In the present study reported that, the high percentage of reactions given by the respondents on seeing the advertisement of sanitary pads on television was reported to be 234 (39.0%) of girls said that they felt shy to see the advertisements in front of male members of the family while 162 (27.0%) girls felt these were no reaction, 114 (19.0%) girls felt embarrassed and 90 (15.0%) girls reported that such advertisement should be banned.

These results was similar to the study conducted by **(Dipali, 2009)** who found that the high percentage of girls 61 (28.12%) girls said that they felt shy to see the advertisements of sanitary pads on television in front of male members of the family. Thus, we can say that such advertisements should be made more informative and student-friendly so that they can be perceived well by adolescent school girls. Moreover, the findings emphasis on the inclusion of safe hygiene and sanitary practices should be included in the school curricula as well as greater communication between student and lady teachers and between daughters and mothers.

V. Conclusion

The study concluded that those students had experienced unhealthy menstrual practices, low level of knowledge and various misconceptions among adolescent school girls regarding menstruation. in the pre-test but in the post test promoting awareness and practice in school girls has been improved after exposure to the

program and it was a helpful way to increase and could reduce the physical, emotional burdens about menstruation. It becomes necessity to educate young females about various aspects of menstruation like taking sufficient and correct nutrition, appropriate diet, observing personal hygienic practices, doing mild physical activity, taking medication under a physician's supervision and consulting for any psychological problems during their menstrual period. The study also clearly brings out the effectiveness of health education in improving their knowledge and practices.

VI. Recommendations

Based on the findings of the current study, the following recommendations are proposed: - to prepare girls for menstruation before menarche through a well-informed continuous, school education programme should be imparted to the students. Further, emphasis also needs to be given through workshops and seminars on "Adolescent Reproductive Health. And provide verbal and written instructions about menstruation.

Table (1): Percentage distribution of preparatory rural school girls according to their socio demographic characteristics (N=600)

Items	No. (n= 600)	%
Age:		
< 15 years	420	70.0
≥ 15 years	180	30.0
Mean ± SD (Range)	14.25 ± 1.53 (12.0 – 17.0)	
Residence:		
Rural	600	100.0
Level of education:		
Preparatory:-	600	100.0
Menstrual interval:		
<28 (days)	342	57.0
28-30	138	23.0
>30	120	20.0
Age at menarche:		
9-11	96	16.0
12-14	432	72.0
15-16	72	12.0

Table (2): Source of information of preparatory rural school girls about menstruation

Source of information	No.	%
Mother	290	48.3
Friends	500	83.3
School or class	130	21.6
Nurse	6	1.0
Physician	12	2.0
Health education in society	90	15.0
TV	20	3.3

Table (3): Distribution of school girl's knowledge regarding menstruation as pre and post two months health promotion

Items	n=600 100%				P- value N.S
	Pre- Program		Post program		
	No	%	No	%	
Menstrual blood is impure					
• Yes	450	75.0	600	100	
• No	150	30.0	0.0	0.0	
- The organ from the blood comes					
- Uterus	60	10.0	600	100.0	<0.000
-Vagina	180	30.0	0.0	0.0	
- Urethra	300	50.0	0.0	0.0	
- Don't know	120	20.0	0.0	0.0	
Excessive bleeding lead to anemia					
- Yes	350	58.3	570	95.0	<0.000
- No	250	41.7	30	5.0	
Influence of hot and cold food on menses?					
• Yes	474	79.0	42	7	0.000
• No	126	21.0	558	93	
Influence of diet on menses?					
• Yes	72	12.0	594	99.0	0.000
• No	528	88.0	6	1.0	

Table (4): Distribution of school girl's restrictions and practice during menstruation as pre and post two months health promotion (n=600)

Items	n=600 100%				P-value
	Pre-program		Post program		
	No	%	No	%	
Visit holy places during menstruation?					
- Yes	0	0	0	0.0	
- No	600	100	600	100	
visit relatives, friends, and neighbors during menses					
• No	0	100	198	33.0	0.000
• Yes	0	0.00	402	67.0	
Do household activities during menses					
- Yes	279	46.5	294	49	
- No	321	53.5	306	51	p>0.05
Practice isolation during menses?					
• Yes	550	91.6	520	86.6	<0.000
• No	50	8.4	80	13.4	
Wash your genitalia often with soap and water whenever you change cloth/ sanitary pad?					
• Yes	170	28.3	590	98.3	<0.000
• No	430	71.7	10	1.7	
Do you bathe daily during menses?					
• Yes	160	26.6	360	60.0	
No	440	72.4	240	40.0	P=0.01

Table (5): Comparison of school girl's ' level of knowledge related to menstruation as pre and post two months health education implementation

Items	n=600 100%				P-value
	Pre-program		Post program		
	No	%	No	%	
- bad > "50 "	600	100%	0	0.0	<0.000 ***
-fair "50- 65"	0	0.0	180	30.0	<0.000 ***
-good"> "65"	0	0.0	480	80.0	<0.000 ***
Total knowledge	5.68±0.69		64.04±8.64		<0.000 ***

Table (6): Preparatory rural school girl's practice during menstruation pre and post two months health education implementation

items	No. (n= 600) %				P-value
	Pre-program		Post program		
	No	%	No	%	
1-Type of pads used:-					
Piece of old clothes	30	5.0	36	6.0	
Piece of new clothes	330	55.0	114	19.0	P=0.01
Sanitary pad and clothes	240	40.0	450	75.0	
2-Methods of drying					
Expose to the sun	342	57.0	588	98.0	0.000
Artificial dry	258	43.0	12	2.0	
3-Wash clothes of menses:					
With water	384	64 .0	60	10.0	0.000
With water and soap	216	36.0	440	90	
4-Methods of disposal of absorbents after use among respondents					
Throw it in routine waste	192	32.0	360	60.0	
Wash clothes and dry it in sun	378	63.0	120	20.0	0.000
Burn clothes or pad	60	10.0	120	20.0	
5-Number of absorbent Pad is changed per day:					
1	90	15.0	450	75.0	0.000
2	390	65.0	90	15.0	
3	120	20.0	120	10.0	
More than 3	0	0.0	0	0.0	
8-Taking bath in all days of menstruation:					
Yes	240	40.0	540	90.0	0.000
No	360	60.0	120	10.0	
9-Exercise during menstruation:					
Yes	246	41.0	270	45	

No	294	49.0	330	55	p>0.05
10-the dietary or nutritional influence on menstruation					
Yes	174	29..0	540	90.0	0.000
No	426	71.0	120	10.0	
11-Absenteeism from school in the first day:					
Yes	450	75.0	90	15.0	
No	150	25.0	510	85.0	0.001

Table (7): Comparison of girls 'level of practice during menstruation pre and post two months health education

Items	n=600100%				
	Pre-program		After two months program		
	No	%	No	%	P-value
- bad > "50 "	39	(55.7%)	0	0.0	<0.000
-fair "50- 65"	28	(40.0%)	0	0.0	<0.000***
-good"> "65"	3	(4.28%)	70	(100%)	<0.000
Total practice Score	16.17±1.60		25.84±2.12		<0.000 ***

Table (8): Correlation coefficient between girls' total knowledge score and practice scores during pre and post two months health education implementation

items	Practice			
	no=600 100%			
	Pre-program		After program	
	R	P	R	P
- **Total knowledge pre program**	0.036	0.815 (N.S)	---	---
- **Total knowledge post program**	---	---	0.411	0.005 ***

Table (9): Percentage distribution of reactions by girls on seeing sanitary pad advertisements shown on T.V.

Reactions by girls on seeing sanitary pad advertisements shown on T.V.	No	%
-Feel shy in front of male members and feel like changing the channel	234	39.0
-No reaction	162	27.0
-Feel embarrassed	114	19.0
-Such advertisements should be banned	90	15.0

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