

## ***A study to evaluate the effectiveness of video-assisted teaching programme versus information booklet on preparedness for healthy menstruation among premenarchal adolescents in selected school of Delhi***

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### ***Abstract***

A study to evaluate the effectiveness of video-assisted teaching programme versus information booklet on preparedness for healthy menstruation among premenarchal adolescents in selected school of Delhi was undertaken by Ms. Iris James.

The objectives of the study were to develop a video-assisted teaching programme and information booklet on preparedness for healthy menstruation, assess and evaluate the knowledge of premenarchal adolescents before and after administration of video-assisted teaching programme, assess the knowledge of premenarchal adolescents before and after administration of information booklet, assess and evaluate the practice of premenarchal adolescents before and after administration of video-assisted teaching programme, assess the practice of premenarchal adolescents before and after administration of information booklet, find the relationship between knowledge and practice of premenarchal adolescents before and after administration of video-assisted teaching programme, find the relationship between knowledge and practice of premenarchal adolescents before and after administration of information booklet, compare the knowledge of premenarchal adolescents before and after administration of video-assisted teaching programme and information booklet, compare the practice of premenarchal adolescents before and after administration of video-assisted teaching programme and information booklet, determine the acceptability and utility of video-assisted teaching programme and information booklet on preparedness for healthy menstruation.

The conceptual framework of the study was based on "Orem's Self-Care Theory". A review of related research and non-research literature helped the researcher to adopt a conceptual framework and suitable methodology. A true experimental research approach was used for the study and a pre-test post-test control group design (multiple group comparative study) research design was adopted. The study setting was Frank Anthony Public School, New Delhi-24 and the sample for the study consisted of 90 premenarchal adolescents above 10 years and below 12 years of age. The sampling technique used was stratified random sampling from a sampling frame prepared by the researcher with random assignment to experimental group-1, experimental group-2 and control group using lottery method of three colour codes. The independent variables in the study were video-

assisted teaching programme and information booklet on preparedness for healthy menstruation and the dependant variables were knowledge and practice of premenarchal adolescents on preparedness for healthy menstruation.

The tools used for data collection were structured knowledge questionnaire on preparedness for healthy menstruation, expressed practice checklist on preparedness for healthy menstruation and structured opinionnaire to measure the acceptability and utility of the interventions. To ensure the content validity the tool was submitted to 11 experts in various fields of concern. Reliability was established using Kuder-Richardson 20 formula for structured knowledge questionnaire and Cronbach's alpha formula for expressed practice checklist. The pilot study was conducted from '22nd October to 30th October 2018' and the final study was conducted from '16th December 2018 to 6th January 2019.' The data obtained was organised and analysed using both descriptive and inferential statistics according to the objectives and hypothesis of the study.

The major findings of the study revealed that initially the premenarchal adolescents had poor knowledge and inadequate practice scores on preparedness for healthy menstruation. However, the mean post-test knowledge and post-test practice scores were higher than the mean pre-test knowledge and post-test practice scores. Hence, both the interventions video-assisted teaching programme and information booklet were effective in improving the knowledge and practice of premenarchal adolescents on preparedness for healthy menstruation. Stronger positive correlation (0.70) between knowledge and practice exists in experimental group-2 than experimental group-1 (0.50), which is statistically significant at 0.05 level of significance indicating that knowledge provided by information booklet was more effective in increasing the practices of premenarchal adolescents on preparedness for healthy menstruation. With a higher mean (22.4) it is revealed that the intervention-information booklet was more effective than video-assisted teaching programme with a mean (18.13) to increase the knowledge of premenarchal adolescents on preparedness for healthy menstruation. With a higher mean (17) it is revealed that the intervention-information booklet was more effective than video-assisted teaching programme with a mean (12) to increase the practice of premenarchal

adolescents on preparedness for healthy menstruation. Mean of acceptability and utility score in experimental group-2 (29.4) is higher than experimental group-1 (26.53) indicating a higher acceptability and utility of information booklet than the video-assisted teaching programme among premenarchal adolescents.

On the basis of the findings, the recommendations were that, nurses must recognise their role in disseminating information regarding healthy menstruation and create awareness among the adolescent population, their parents and the society. Focus on health promotion, disease prevention and client-centered care. Preventive services for the premenarchal adolescents will result in overall good health and ensure better maternal outcome as they grow older. Clinical and school-health nurses can organise counselling sessions for parents and adolescents to sensitise them on preparedness for healthy menstruation. Nurses can motivate both adolescents and their parents to visit the adolescent clinics to avail the services available for them. Encourage evidence based practice for better health outcomes.

### Key words

- Evaluate- in this study refers to the method of estimating & interpreting the effectiveness of video-assisted programme and information booklet on preparedness for healthy menstruation.
- Effectiveness- in this study it refers to the extent to which video-assisted teaching programme and information booklet on preparedness for healthy menstruation has achieved the intended results in terms of gain in mean knowledge and practice scores as measured using structured knowledge questionnaire and expressed practice checklist.
- Video-assisted teaching programme (VATP) - in this study it refers to the systematically designed teaching programme using videos to educate premenarchal adolescents in selected school of Delhi about preparedness for healthy menstruation.
- Information booklet- in this study refers to a small, thin book with paper covers, developed by the investigator to educate premenarchal adolescents in selected school of Delhi about preparedness for healthy menstruation.
- Preparedness- in this study refers to a state of readiness or being prepared for healthy menstruation.
- Healthy menstruation- in this study refers to the physiological phenomena in the life of an adolescent girl that occurs naturally, initiates ovulation and entry into the reproductive group, while she is able to maintain her good health, proper growth and development.
- Knowledge- in this study it refers to the correct responses of premenarchal adolescents in selected school of Delhi about preparedness for healthy menstruation measured using structured knowledge questionnaire.

- Practice- in this study it refers to the correct responses of premenarchal adolescents in selected school of Delhi about preparedness for healthy menstruation measured using expressed practice checklist.
- Premenarchal- in this study refers to adolescents girls who have not attained menarche.
- Adolescents- in this study refers to premenarchal adolescents of above 10 years of age and below 12 years of age.

### Introduction

The World Health Organization defines adolescents as those people between 10 and 19 years of age. Adolescence is one of the most rapid and formative phases of human development, and the distinctive physical, cognitive, social, emotional and sexual development that takes place during adolescence demands special attention in national development policies, programs and plans. Adolescence is one of life's fascinating and perhaps most complex stages, a time when young people take on new responsibilities and experiment with independence. They search for identity, learn to apply values acquired in early childhood, and develop skills that will help them become caring and responsible adults. When adolescents are supported and encouraged by caring adults, they thrive in unimaginable ways, becoming resourceful and contributing members of families and communities. (1) There are 253 million adolescents in the age group 10-19 years in India. This age group comprises of individuals in a transient phase of life requiring nutrition, education, counselling and guidance to ensure their development into healthy adults. (2)

Adolescence is a phase of rapid growth and development during which physical, physiological and behavioural changes occur. They constitute more than 1.2 billion worldwide, and about 21% of Indian population. Morbidity and mortality occurring in this age group is mostly due to preventable causes. Young and growing children have poor knowledge and lack of awareness about physical and psychological changes that occurs during adolescence and the ill health affecting them. Adolescent health programmes are fragmentary at present and there is no comprehensive programme addressing all the needs of adolescents. Access and availability of health care services are severely limited. Lack of accurate information, absence of proper guidance, parent's ignorance, lack of skills and insufficient services from health care delivery system are the major barriers. (3)

The first menstruation is often horrifying and traumatic to an adolescent girl because it usually occurs without her knowing about it. There is a substantial lacunae in the knowledge about menstruation among adolescent girls. Several traditional norms and beliefs influence the practices related to menstruation. It is a common observation that girls are rarely informed about menstruation unless they experience it for the first time. Adolescent girls form a susceptible population, especially in India where female child is abandoned. Indian society still regards

menstruation as something unclean or dirty. The response to menstruation is determined by the awareness and knowledge about the same. The manner in which a girl acquires knowledge about menstruation and its related changes affects her reaction to the event of menarche. Although Menstruation is a natural phenomenon; however, numerous misconceptions and practices linked to it leads to negative outcomes. (4)

Menstruation and its practices are still clouded by taboos and socio-cultural restrictions resulting in adolescent girls remaining ignorant of the scientific facts and hygienic health practices. As a result many young girls lack appropriate and sufficient information regarding menstrual hygiene, which may result in incorrect and unhealthy behaviour during their menstrual period. Poor personal hygiene and unsafe sanitary conditions may contribute the situation to become worse in the girls facing many gynaecological problems. Increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women. (5, 6)

## Materials and methods

Research approach- True experimental research

Research design- Pre-test post-test control group design (Multiple group comparative study)

Variables under study-

- **Dependent Variable:** - The dependent variables are knowledge and practice of premenarchal adolescents on preparedness for healthy menstruation.
- **Independent Variable:** - The independent variables in the present study were video-assisted teaching programme and information booklet on preparedness for healthy menstruation.
- **Attribute Variables:** The attribute variables in the present study were class of study, age, religion, occupation of father, educational qualification of mother, type of family, previous knowledge about healthy menstruation and source of the information.

Setting of the study- Frank Anthony Public School, Lajpat Nagar-IV, New Delhi-110024

Population- The population comprised of 90 adolescent girls in selected school of Delhi. The target population was premenarchal adolescents in selected school of Delhi.

Sample- The sample for the study consists of premenarchal adolescents above 10 years and below 12 years of age in selected school of Delhi.

Sampling techniques- The sampling technique used was 'Stratified random sampling' technique from a sampling frame prepared by the researcher with random assignment of samples to experimental group-

1, experimental group-2 and control group using lottery method of three colour codes (red, yellow and green).

Sample size-

- Try out: 10 premenarchal adolescents
- Pilot study: total 30 premenarchal adolescents (10 experimental group-1, 10 experimental group-2 and 10 control group)
- Final study: total 90 premenarchal adolescents (30 experimental group-1, 30 experimental group-2 and 30 control group).

Sampling criteria-

- **Criteria for sample selection inclusion Criteria-**
  - Premenarchal adolescents between 10 to 12 years of age.
  - Students with written informed consent from parent/guardian.
  - Students available at the time of data collection.
- **Criteria for sample selection exclusion Criteria-**
  - Age below 10 years and above 12 years.
  - Premenarchal adolescents not available during final data collection.

Data collection tools and technique-

The tool consists of-

Tool-1: Structured knowledge questionnaire on preparedness for healthy menstruation.

- Section-1: Sample characteristics and demographic data
- Section-2: Knowledge on preparedness for healthy menstruation

Tool-2: Expressed practice checklist on preparedness for healthy menstruation.

Tool-3: Structured opinionnaire to measure the acceptability and utility of the interventions.

- Structured opinionnaire A: for video-assisted teaching programme group
- Structured opinionnaire B: for information booklet group

Description of the interventions-

- **Video-assisted teaching programme (VATP)** - In this study it refers to the systematically designed teaching programme which used a video to educate premenarchal adolescents in selected school of Delhi on preparedness for healthy menstruation.
- **Information booklet**- In this study refers to a small, thin book with paper covers, developed by the investigator to educate premenarchal adolescents in selected school of Delhi about preparedness for healthy menstruation. The book was made easy to understand, illustrated and interesting.

### Content validity of the tools-

Content validity of tools was established by submitting the structured knowledge questionnaire, expressed practice checklist, video-assisted teaching programme and information booklet to 11 experts in the field of nursing- obstetrical and gynaecological nursing, paediatric nursing and community health nursing, paediatricians and gynaecologists.

The relevance, adequacy and appropriateness of the items in the tool was evaluated

### Reliability of the tools-

Reliability of structured knowledge questionnaire was established as 0.81 using Kuder-Richardson 20 (KR-20) formula and reliability of expressed practice checklist was established as 0.80 using Cronbach's alpha. Hence the tool was found to be reliable.

### Try out of the tools-

- For try out, tool was administered to 10 premenarchal adolescent selected using stratified random sampling to check the feasibility of the tool for collecting data.
- On the basis of response of the subjects the reliability of the tool was calculated.
- The items were also checked for clarity, relevance and nature of response of the participants.

### Ethical considerations-

- Ethical clearance was obtained from Department of Obstetrical Nursing, RAK college of Nursing. The letter of collaboration was written from Principal, R.A.K.CON to the Principal in selected school of Delhi for the main study and for the pilot study.
- The school Principal was briefed on the objectives of the study.
- Each study participant was adequately informed about the purpose, benefits and risks of the study and their right to discontinue or refuse to participate in the study.
- Written informed consent was secured from each study participant's parents/guardians as they are minors under the age of 18.
- Confidentiality, privacy and anonymity of the participants was maintained.

### Pilot study-

After obtaining formal administrative approval, the pilot study was conducted from '22nd October to 30th October 2018' at 'The Frank Anthony Public School in New Delhi.

### Final study data collection-

The final study was conducted from '16th December 2018 to 6th January 2019' at 'The Frank Anthony Public School in New Delhi.'

### Statistical analysis

- Out of the total 90 samples, majority of the samples in experimental group-1, 21 (70%), experimental group-2, 21 (70%) and in control group 19 (63%) study in class 5.
- More than half of the premenarchal adolescents in experimental group-1, 18 (60%), experimental group-2, 20 (67%) and in control group 20 (67%) belong to the age group of 10 to 11 years.
- Majority of adolescents in experimental group-1, 16 (53%), experimental group-2, 16 (53%) and in control group 16 (53%) belong to Hindu religion.
- The data also illustrates that occupation of father of majority the adolescents was private service i.e. 13 (43%) in experimental group-1, 14 (47%) in experimental group-2 and 15 (50%) in control group.
- The data highlights that majority of mothers of the adolescents are graduates i.e. 16 (53%) in experimental group-1, 18 (60%) in experimental group-2 and 16 (53%) in control group.
- The total family income of majority of the adolescents is more than Rs. 30,000 i.e. 15 (50%) in experimental group-1, 15 (50%) in experimental group-2 and 18 (60%) in control group.
- The data illustrates that majority of the adolescents live in nuclear families i.e. 19 (63%) in experimental group-1, 17 (57%) in experimental group-2 and 16 (53%) in control group.
- It is interesting to note that majority of the girls 17 (57%) in experimental group-1, 19 (63%) in experimental group-2 and 18 (60%) in control group had no previous knowledge about preparedness for healthy menstruation.
- The data further reveals that the source of information of those having some prior knowledge about menstruation i.e. 9 (69%) in experimental group-1, 8 (73%) in experimental group-2 and 6 (50%) in control group is their mother.
- The mean post-test knowledge score of experimental group-2 (22.4) is highest, followed by experimental group-1 (18.13) and then control group (11.9). This indicates that there was a gain in knowledge on preparedness for healthy menstruation among premenarchal adolescents and the gain in knowledge was more in experimental group-2 than experimental group-1.
- The standard deviation of post-test knowledge scores in experimental group-2 (1.32) is lowest, followed by experimental group-1 (1.43) and then control group (1.57). This indicates that the gain in knowledge was most homogeneous in experimental group-2, followed by experimental group-1 and then control group.
- The mean post-test knowledge score (18.13) is higher than the mean pre-test knowledge score of experimental group-1 (11.9). The obtained mean difference (6.23) was found to be statistically significant as evident by t-value of 14.94 which is greater than table value of 2.05 for degree of freedom 29 at 0.05 level of



significance indicating that the intervention- video-assisted teaching programme was effective to increase the knowledge of premenarchal adolescents on preparedness for healthy menstruation.

- The mean post-test knowledge score of experimental group-1 (18.13) is higher than the mean post-test knowledge score of control group (11.93). The obtained mean difference (16.2) was found to be statistically significant as evident by t-value of 15.95 which is greater than table value of 2 for degree of freedom 58 at 0.05 level of significance indicating that the intervention- video-assisted teaching programme was effective to increase the knowledge of premenarchal adolescents on preparedness for healthy menstruation.
- The mean post-test knowledge score (22.4) is higher than the mean pre-test knowledge score of experimental group- 2 (11.36). The obtained mean difference (11.04) was found to be statistically significant as evident by t-value of 34.8 which is greater than table value of 2.05 for degree of freedom 29 at 0.05 level of significance indicating that the intervention-information booklet was effective to increase the knowledge of premenarchal adolescents on preparedness for healthy menstruation.
- The mean post-test knowledge score of experimental group-2 (22.4) is higher than the mean post-test knowledge score of control group (11.93). The obtained mean difference (10.47) was found to be statistically significant as evident by t-value of 27.83 which is greater than table value of 2 for degree of freedom 58 at 0.05 level of significance indicating that the intervention-information booklet was effective to increase the knowledge of premenarchal adolescents on preparedness for healthy menstruation.
- The mean post-test practice score of experimental group-2 (17) is highest, followed by experimental group-1(12) and then control group (6.4). This indicates that there was a gain in practice on preparedness for healthy menstruation among premenarchal adolescents and the gain in practice was more in experimental group-2 than experimental group-1.
- The standard deviation of post-test practice scores in experimental group-2 (1) is lowest, followed by experimental group-1(1.1) and then control group (1.27). This indicates that the gain in practice was most homogeneous in experimental group-2 , followed by experimental group-1 and then control group.
- The mean post-test practice score (12) is higher than the mean pre-test practice score of experimental group- 1 (6.6). The obtained mean difference (5.4) was found to be statistically significant as evident by t-value of 20.42 which is greater than table value of 2.05 for degree of freedom 29 at 0.05 level of significance indicating that the intervention- video-assisted teaching programme was effective to increase the practice of premenarchal adolescents on preparedness for healthy menstruation.
- The mean post-test practice score of experimental group-1 (12) is higher than the mean post-test practice score of control group (6.4). The obtained mean difference (5.6) was found to be statistically significant as evident by t-value of 18.02 which is greater than table value of 2 for degree of freedom 58 at 0.05 level of significance indicating that the intervention- video-assisted teaching programme was effective to increase the practice of premenarchal adolescents on preparedness for healthy menstruation.
- The mean post-test practice score (17) is higher than the mean pre-test practice score of experimental group- 2 (6.1). The obtained mean difference (10.9) was found to be statistically significant as evident by t-value of 31.54 which is greater than table value of 2.05 for degree of freedom 29 at 0.05 level of significance indicating that that the intervention- information booklet was effective to increase the practice of premenarchal adolescents on preparedness for healthy menstruation.
- The mean post-test practice score of experimental group-2 (17) is higher than the mean post-test practice score of control group (6.4). The obtained mean difference (10.6) was found to be statistically significant as evident by t-value of 35.87 which is greater than table value of 2 for degree of freedom 58 at 0.05 level of significance indicating that that the intervention- information booklet was effective to increase the practice of premenarchal adolescents on preparedness for healthy menstruation.
- Stronger positive correlation (0.70) between knowledge and practice exists in experimental group-2 than experimental group-1 (0.50), which is statistically significant at 0.05 level of significance indicating that knowledge provided by information booklet was more effective in increasing the practices of premenarchal adolescents on preparedness for healthy menstruation.
- Both the interventions- video-assisted teaching programme and information booklet were effective in increasing the knowledge and practice of premenarchal adolescents on preparedness for healthy menstruation.
- With a higher mean (22.4) it is revealed that the intervention-information booklet was more effective than video-assisted teaching programme with a mean (18.13) to increase the knowledge and practice of premenarchal adolescents on preparedness for healthy menstruation.
- With a higher mean (17) it is revealed that the intervention-information booklet was more effective than video-assisted teaching programme with a mean (12) to increase the practice of premenarchal adolescents on preparedness for healthy menstruation.
- Mean of acceptability and utility score in experimental group-2 (29.4) than experimental group-1 (26.53) indicating a higher

acceptability and utility of information booklet than the video-assisted teaching programme among premenarchal adolescents.

- Standard deviation of acceptability and utility score experimental group-2 (0.56) is lower than experimental group-1 (0.86) indicating that the acceptability and utility scores are more homogeneous among premenarchal adolescents who were administered the information booklet.

## Discussion

The findings of the study revealed that both the interventions were effective but the intervention- information booklet was more effective than video-assisted teaching programme to increase the knowledge and practice on preparedness for healthy menstruation among premenarchal adolescents.

In this section, the major findings of the present study have been discussed with the result obtained by other researchers.

- Preparedness for healthy menstruation

Findings of the present study indicated that there was deficient knowledge and inadequate practice on preparedness for healthy menstruation among premenarchal adolescents. These findings are consistent with the findings of the study (44) which revealed that, low and middle income (LMIC) countries must recognize that lack of preparation, knowledge and poor practices surrounding menstruation are key impediments not only to girls' education, but also to self-confidence and personal development, consider how to improve the provision of knowledge and understanding and how to better respond to the needs of adolescent girls. The findings are also in conformity with the findings of the study (46) which stated that majority of girls in India report having no knowledge of menstruation before their first period and their dominant feelings upon the onset of menarche was anxiety, fear, shock etc. Study (47) with similar findings concluded that girls do not understand or are inadequately informed about the process of menstruation, they are not prepared for their first menstruation.

- Knowledge of premenarchal adolescents on preparedness for healthy menstruation

Findings of the present study indicated deficiency in knowledge on preparedness for healthy menstruation. The findings are in conformity with the findings of study (49) which stated that that schoolgirls have an insufficient level of knowledge about normal puberty and that education programmes must be conducted for students and their parents. The findings are also similar to study (50) which concluded that comprehensive health education programme involving mothers is required to remove various misconceptions and taboos associated with menstruation and make it a pleasant experience for adolescent girls. The findings are also in conformity with study (52) which remarked that preparing adolescent girls for menarche, the onset of menstruation,

and foundation of reproduction can set an important foundation for overall reproductive health and well-being. General awareness about cause, organs involved and what happens during menstruation needs to be there. Similarly study (53) also concluded that correct knowledge in adolescent young girls regarding menstruation is lacking. Lack of awareness is a roadblock in adopting safe and hygienic menstrual practices. It also hinders them from overcoming traditional beliefs, misconceptions and restrictions regarding menstruation. This will empower them as they transition into womanhood.

- Practice of premenarchal adolescents on preparedness for healthy menstruation

Findings of the present study revealed inadequate practice on preparedness for healthy menstruation among premenarchal adolescents. The findings are in conformity with the findings of study (54) which remarked that appropriate health education programmes and social marketing of sanitary pads may lead to better menstrual hygiene practices among adolescents. The findings are also consistent with study (56) which concluded that that low level of knowledge about menstruation, poor menstrual hygiene was found among adolescents. There are different types of misconception, myths, restriction and lack of menstruation related knowledge. Education regarding menstruation reproductive health with more focus on menstrual hygiene should be made a part of school curriculum. Similarly study (57) concluded that girls should be made aware regarding physiological basis of menstruation and a change in beliefs and attitudes need to be attained to ensure optimal behaviour and thereby prompting of healthy menstrual life styles and practices.

- Effectiveness of the interventions- video-assisted teaching programme and information booklet on preparedness for healthy menstruation

The findings of the study are consistent with findings of study (59) which concluded that video assisted teaching programme had an effect in improving the knowledge and practice of adolescent girls on menstrual health. The study could not be compared in all aspects with other studies as there are limited studies available and similar could be accessed by the researcher regarding the effectiveness of the interventions- video-assisted teaching programme and information booklet on preparedness for healthy menstruation.

## Result

- The present study identified knowledge deficit and inadequate practices on preparedness for healthy menstruation among premenarchal adolescents.
- Education is necessary to improve the knowledge and practices on preparedness for healthy menstruation among all premenarchal adolescents.

- The intervention- information booklet was more effective than video-assisted teaching programme to increase the knowledge on preparedness for healthy menstruation among premenarchal adolescents.
- The intervention- information booklet was more effective than video-assisted teaching programme to increase the practice on preparedness for healthy menstruation among premenarchal adolescents.

## Conclusion

### Limitations-

The researcher could fulfil pre-set research objectives and reach the study goals but there were some unavoidable limitations:

- The study was confined to one selected school.
- The study was confined to only middle school girl students.

### Clinical Significance-

- Nurses must recognise their role in disseminating information regarding healthy menstruation and create awareness among the adolescent population, their parents and the society.
- Focus on health promotion, disease prevention and client-centered care.
- Preventive services for the premenarchal adolescents will result in overall good health and ensure better maternal outcome as they grow older.
- Clinical and school health nurses can organise counselling sessions for parents and adolescents to sensitise them on preparedness for healthy menstruation.
- Nurses can motivate both adolescents and their parents to visit the adolescent clinics to avail the services available for them.
- Encourage evidence based practice for better health outcomes.

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[56th World Advanced Nursing and Nursing Practice Congress](#); September 21-22, 2020.

#### Abstract Citation:

A study to evaluate the effectiveness of video-assisted teaching programme versus information booklet on preparedness for healthy menstruation among premenarchal adolescents in selected school of Delhi, Advanced Nursing 2020, 56th World Advanced Nursing and Nursing Practice Congress; September 21-22, 2020.