Research Article

Effectiveness of Video-assisted Teaching Program on Knowledge Regarding Effects of Home Remedies on Dysmenorrhea Among Adolescent Girls Studying at Stephens International Public School, Miran Sahib, Jammu

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A B S T R A C T

Background: Dysmenorrhea is a medical condition of pain around the pubic bone and in the lower abdomen during menstruation. The study aimed to assess the effectiveness of a videoassisted teaching program on knowledge regarding effects of home remedies on dysmenorrhea among adolescent girls.

Methodology: A pre-experimental one-group pre-test post-test design was used involving 60 adolescent girls of 9th to 12th standard at Stephens International Public School, Miran Sahib, Jammu. The sample was chosen by using purposive sampling technique. Data was collected using a self-structured knowledge questionnaire. A pre-test occurred on day one, followed by a Video Assisted Teaching program on knowledge regarding effects of home remedies on dysmenorrhea. Post-test occurred on day seven.

Results: The majority (70%) of participants attained menarche in the age group of 10-16 years with most (35%) from 11th standard. Majority (75%) were vegetarian with most (60%) from Urban area. About (70%) of subjects were doing mild activities with (95%) having 25-35 days of menstrual cycle. Most (72%) of participants belonged to nuclear family with majority (70%) having family / friends as a source of information. The pre-test showed that 85% had inadequate knowledge, while post-test indicated 100% had adequate knowledge.

Conclusion: Majority of adolescent girls had inadequate knowledge regarding effects of home remedies on dysmenorrhea before intervention. Video assisted teaching was highly effective in increasing the knowledge of adolescent girls. Hence, it can be concluded that Video Assisted Teaching has effective impact on knowledge regarding effects of home remedies on dysmenorrhea among adolescent girls. Significant association was found with Age of Menarche, Educational Qualification, Area of Residence, Type of Activity, Type of Family and Source of Information. No significant association was found with Dietary Pattern and Total days of Menstrual Cycle.

Keywords: Dysmenorrhea, Video Assisted Teaching Program, Adolescent Girls, Knowledge, Effectiveness, Home Remedies

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Introduction

Life is a continuous journey from birth to death, and for women, the adolescent stage marks a period of significant change. This stage represents the transition from childhood to adolescence, with key milestones like the development of secondary sexual characteristics and the onset of menstruation (menarche). Menstrual issues, especially dysmenorrhea, are common among adolescents. Dysmenorrhea, derived from the Greek words 'dys' (meaning difficulty) and 'menorrhea' (meaning monthly flow), refers to painful menstrual cramps. During menstruation, the body releases prostaglandins, which cause the uterus to contract in order to expel its lining. This contraction can result in menstrual cramps. Although some level of pain or cramping is typical, severe pain is classified as dysmenorrhea. A menstrual cycle is defined from the first day of one period to the first day of the next. While the average cycle length is 28 to 29 days, it can vary, with teens sometimes experiencing cycles that last up to 45 days, and women in their 20s to 30s having cycles that range from 21 to 38 days.[1]

Dysmenorrhea is one of the most prevalent gynecological conditions, affecting women of all ages and races. It is a leading cause of pelvic pain in menstruating women and can occur even without any underlying medical condition. Typically, it begins within a year of the first menstrual period when no specific cause is present. The pain may reduce with age or after childbirth, although this is not always the case. While mild to moderate menstrual cramping is normal, some individuals experience such intense pain that disrupts their daily activities and prevents them from enjoying normal tasks.[2]

Adolescent girls, in particular, face various challenges, including academic difficulties, social interaction problems, low self-esteem, and mental health issues such as anxiety, depression, and mood swings. They are also susceptible to physical health problems like endocrine disorders, urinary tract infections, iron deficiency, and menstrual irregularities. Menstrual problems are among the most common issues, accounting for approximately 78% of the challenges faced by adolescent girls. While medications and other treatments can alleviate painful periods, dysmenorrhea is classified into two types: Primary and Secondary. Primary dysmenorrhea arises without any underlying medical issues, while secondary dysmenorrhea is associated with specific conditions affecting the uterus or reproductive organs. Untreated dysmenorrhea can result to significant consequences, including missed school or work, and disruptions in personal and family life.[2]

Menstrual cramps do not follow a consistent pattern or intensity, but the discomfort they cause can still make this time difficult. There are various methods available to alleviate menstrual cramps. However, alternative therapies are particularly helpful for women who experience side effects from medication. Several natural remedies can also reduce menstrual cramps, and these do not typically cause adverse effects. Women often rely on over-the-counter products and home treatments, such as using heating pads, to ease the pain. Avoiding certain foods can also be beneficial. Some popular home remedies include massaging with essential oils, engaging in sexual activity, avoiding junk food and incorporating herbs into the diet.[1]

Dysmenorrhea is the most common gynecological issue among women, affecting a large proportion of the population. Menstrual symptoms encompass a range of emotional and physical concerns that occur around the time of menstruation. Estimates suggest that between 50% and 90% of female adolescents and women of reproductive age experience these symptoms. Typically, dysmenorrhea begins within a year of the first menstrual period, often without any underlying health conditions. The pain usually lessens with age or after childbirth, however, this is not always true. Dysmenorrhea is among the most common causes of pelvic pain in menstruating individuals, regardless of age or race, and its impact is broad, making effective management essential. The medical management of dysmenorrhea typically involves nonsteroidal anti-inflammatory drugs (NSAIDs), like aspirin, ibuprofen (Brufen), and naproxen, which act as prostaglandin inhibitors to alleviate pain. Although these medications provide quick relief, they can be costly and are not recommended for long-term use.[2]

For women who experience adverse side effects from medication, alternative therapies can serve as a beneficial complementary treatment. These therapies include acupuncture, massage, exercise, and various home remedies. Home remedies, which are natural and free from unwanted side effects, are commonly used to ease menstrual cramps. Many women begin using these remedies a few days before their menstrual cycle and continue until it ends. In India, traditional folk medicine has long been used to treat common ailments like dysmenorrhea. Remedies such as ginger, turmeric, and heat application are well-known for their beneficial effects in reducing menstrual pain and related symptoms. Therapies such as acupuncture, massage, exercise and some home remedies have been used to treat pelvic pain. There are several home remedies to reduce menstrual cramps and associated symptoms. Usually, women start using home remedies few days before the cycle starts and continue until end. These are completely natural and do not cause any unwanted side effects. Traditionally in India, a variety of folk medicines have been used to treat day to day minor disorders such as dysmenorrhea. Among various folk medicines ginger, turmeric, heat application, etc. is known to have outweighing benefits.[1]

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Need for the Study

Everyday women of all age groups, through the changes of life experience many kinds of pain like premenstrual syndrome, dysmenorrhea and labor. Dysmenorrhea being common, limits activities for one to three days every month in females who experience it.[1]

The most common problem in adolescent girls is painful menstruation. The pain is crampy usually located in the lower abdomen. Pain usually starts just before or as menstrual bleeding begins and gradually diminishes over 3-4 days. Pain is intermittent ranging from mild to severe.[2]

Dysmenorrhea is a debilitating condition that significantly impacts women's health, work productivity, and school attendance. It is estimated that severe dysmenorrhea leads to a loss of 600 million work hours and a $2 billion loss in productivity each year. Most individuals with dysmenorrhea can find relief through pain medications, but researchers have also developed alternative therapies, including herbal, dietary, and behavioral treatments. Home remedies not only ease menstrual cramps but also alleviate associated symptoms like stress and anxiety.[1]

A pre-experimental one-group pre-test and post-test study was conducted by Danishta Malik, Munira Kachroo, et al to evaluate the effectiveness of video-assisted teaching program on knowledge of 50 adolescent girls at MMINSR SKIMS, Soura, regarding home remedies for reducing dysmenorrhea. The study's findings showed that in the pre-test, the majority (64%) of participants had poor knowledge, while 36% had average knowledge, and none had good knowledge. However, after the intervention, the post-test results indicated that all participants (100%) demonstrated good knowledge, with none scoring poor or average knowledge.[3]

A pre-experimental study was carried out by Savitha, et al to assess the impact of a structured teaching program on knowledge about home remedies for reducing dysmenorrhea among 60 adolescent girls at St. Paul's Girls' High School, Devanagari, Karnataka, India. Data were collected using a structured, close-ended knowledge questionnaire administered before and after the teaching program. The intervention was provided after the pre-test, and the post-test was conducted on the 7th day. The results showed a significant improvement, with the mean post-test knowledge score (75%) being higher than the mean pre-test score (57.14%). Statistical analysis revealed a significant difference between pre-test and post-test scores (t = 16.15, p < 0.05), demonstrating the effectiveness of the teaching program.[4]

Keeping in view the above findings and experiences of the study, dysmenorrhea is viewed as a prevalent problem affecting the day to day activities of adolescent girls. The pain associated with this condition can be reduced to a greater extent using home remedies.

After doing an extensive review of literature, regarding the effects of home remedies on dysmenorrhea and because of the investigators personal experience, she got motivated to undertake the study to assess the knowledge of adolescent girls regarding effects of home remedies in reducing dysmenorrhea.

Methodology

The research design utilized in the study was a pre-experimental one-group pre-test, post-test design. Permission was obtained from the relevant authorities to conduct the study, and the ethical clearance was taken from the Institutional Ethics Committee (IEC). A purposive sampling technique was employed to select the 60 adolescent girls from Stephens International Public School, Miran Sahib, Jammu. The data collection period of the study was 17-10-2024 to 24-10-2024.

Inclusion Criteria

Adolescent girls who fulfilled the following criteria were included in the study: · Adolescent girls of 15-18 years of age. (9th – 12th standard)

- Adolescent girls willing to take part in the study.
- Adolescent girls available at the time of data collection.

Exclusion Criteria

The girls were excluded from the study as per the following criteria:

- Adolescent girls other than 15-18 years of age.
- Adolescent girls not interested in the study.
- Adolescent girls not present at the time of data collection.

The feasibility of the study was assessed through a pilot study.

A self-structured knowledge questionnaire was administered to the study subjects as a pre-test on day one, followed by an intervention in the form of video-assisted teaching program. Post-test assessment was conducted on day seven using the same self- structured questionnaire.

The assessment of knowledge score was categorized into various levels. A knowledge score of less than 33% indicated inadequate knowledge, 34-67% indicated moderate knowledge and > 68% indicated adequate knowledge.

The data was analyzed using descriptive and inferential statistics.

- **Descriptive Statistics:** Frequency and percentage distribution were used to analyze the demographic variables which were presented in tables and figures.
- **Inferential Statistics:** The paired 't' test was used to compare the pre-test and post-test knowledge scores and the chi-square test was used to find out

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the association of pre-test knowledge scores with their selected demographic variables.

Results and Discussion

Findings Related to the Demographic Variables

The study found that the majority (70%) of participants attained menarche in the age group of 10-16 years with most (35%) from 11th standard. Majority (75%) were vegetarian with most (60%) from Urban area. About (70%) of subjects were doing mild activities with (95%) having 25-35 days of menstrual cycle. Most (72%) of participants belonged to nuclear family with majority (70%) having family / friends as a source of information. (Table 1)

Table 1. Frequency and Percentage Distribution of Study Subjects According to their Sociodemographic Variables

N = 60

Socio-Demographic Variables	F	%
Age of menarche (in years)		
< 10	0	0%
10-16	42	70%
>16	18	30%
Educational Qualification		
9th standard	20	33%
10th standard	9	15%
11th standard	21	35%
12th standard	10	17%
Dietary Pattern		
Vegetarian	45	75%
Non-vegetarian	15	25%
Area of Residence		
Urban	36	60%
Semi-urban	0	0%
Rural	24	40%
Type of Activity		
Mild	42	70%
Moderate	18	30%
Strenuous	0	0%
Total Days of Menstrual Cycle		
4-14 days	0	0%
15-24 days	0	0%
25-35 days	57	95%
35 & above	3	5%
Type of Family		
Nuclear	43	72%
Joint	17	28%
Extended	0	0%
Source of Information		
Health professionals	0	0%
Family/ friends	42	70%
Mass-media	18	30%
Other	0	0%

In a similar study conducted by Farooq et al, 43.3% of participants were aged 21, 28.3% were aged 20 and 21.7% were aged 19. The vast majority (88.3%) belonged to nuclear families. Regarding menarche, 40% experienced it at the age of 13 years, 30% at 14 years, 11.7% at 15 years and 18.3% at under 12 years. Most (88%) had regular menstrual cycles, with 11.7% experiencing regular cycles.[5]

Similarly, in a study by Gayathri, 92% of participants were aged 18-19, with 6% aged 17-18 and 2% aged 16-17. Approximately half (52%) resided in urban areas, while the other half (48%) lived in rural areas. A vast majority (84%) had no history of dysmenorrhea, and 16% reported experiencing it. Additionally, 38% used home remedies to alleviate dysmenorrhea symptoms.[6] Findings Related to the Level of Knowledge of Study Subjects

During the pre-test, the majority of the study subjects (85%) demonstrated Inadequate Knowledge, (15%) were having Moderate Knowledge and none having Adequate Knowledge. However, following the post-test assessment, all the study subjects (100%) showed adequate knowledge with none scoring moderate or inadequate knowledge. (Table 2)

Table 2. Frequency and Percentage Distribution of Pre-test and Post-test Level of Knowledge Score Regarding Effects of Home Remedies on Dysmenorrhea Among Adolescent Girls.

N = 60

Level of Knowledge	Knowledge Scores	Pre-test Score		Post-test Score	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Inadequate	1-10	51	85%	0	0%
Moderate	11-20	9	15%	0	0%
Adequate	21-30	0	0%	100	100%

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These findings align with those of a study conducted by Danishta Malik, Munira Kachroo, et al, where pre-test results indicated that the majority (64%) of participants had poor knowledge, while 36% had average knowledge and none of the participants demonstrated good knowledge regarding home remedies in reducing dysmenorrhea. Post-test results of the same study showed that all participants (100%) had good knowledge, and none had poor or average knowledge regarding home remedies in reducing dysmenorrhea.[3]

The comparison between pre-test and post-test knowledge scores revealed a statistically significant difference. Specifically, the mean post-test knowledge score of the study subjects (29.15±1.013) was significantly higher than the mean pre-test knowledge score (7.583±2.424) at a significance level of $p<0.05$, indicating the effectiveness of the intervention, which was a video-assisted teaching program. (Table 3)

A similar study was conducted by Sheikh, et al, whose findings of the study revealed that the mean post-test knowledge score was significantly higher (24.96±2.54) than that of mean pre-test knowledge score (12.7±2.51) and the t-value obtained was found highly significant at $p<0.05$ level highlighting the effectiveness of video-assisted teaching program in improving the knowledge of adolescent girls regarding home remedies in reducing dysmenorrhea.[7]

Findings Related to the Association of Pre-test Level of Knowledge of Adolescent Girls with the Selected Demographic Variables

The association was found by using chi-square test and the data revealed that there was a significant association of pre-test level of knowledge score with Age of menarche (in years), Educational qualification, Area of residence, Type of activity, Type of family and Source of information regarding effects of home remedies on dysmenorrhea among adolescent girls. On the other hand, Dietary pattern and Total days of menstrual cycle were found no significant association with pre-test level of knowledge score regarding effects of home remedies on dysmenorrhea among adolescent girls. (Table 4)

A similar study was conducted by Kaur R, Kaur M, et al, whose findings of the study revealed that there was a significant association of pre-test level of knowledge score with Educational status of mother and Income of the family per month regarding selected home remedies for reducing dysmenorrhea.[8]

Table 3.Comparison of mean Pre-test and Post-test level of knowledge score regarding effects of home remedies on dysmenorrhea among adolescent girls

N = 60

Level of Knowledge	Mean	Median	Sd	Df	P-Value	Paired 'T' Test
Pre-test	7.583	7	2.424	59	<0.00001	60.93*
Post-test	29.15	29.5	1.013			

*Significant at p< 0.05   **NS = Non-Significant at p> 0.05

Table 4.Association of Pre-test level of knowledge score of adolescent girls with their selected Socio-demographic Variables

N = 60

Socio-Demographic Variables	Level of Knowledge			X^2, Df, P-Value
	Inadequate	Moderate	Adequate	
Age of Menarche (in years)				
< 10	0	0	0	6.7787, 1, 0.0092*
10-16	39	3	0	
>16	12	6	0	
Educational Qualification				
9th Standard	19	1	0	7.8929, 3, 0.0482*
10th Standard	5	4	0	
11th Standard	18	3	0	
12th Standard	9	1	0	

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Dietary Pattern				
Vegetarian	40	5	0	2.1350, 1, 0.1439[NS]
Non-Vegetarian	11	4	0	
Area of Residence				
Urban	34	2	0	6.2962, 1, 0.0120*
Semi-Urban	0	0	0	
Rural	17	7	0	
Type of Activity				
Mild	40	2	0	11.5094, 1, 0.0006*
Moderate	11	7	0	
Strenuous	0	0	0	
Total Days of Menstrual Cycle				
4-14 days	0	0	0	0.8324, 1, 0.3615[NS]
15-24 days	0	0	0	
25-35 days	49	8	0	
35 & above	2	1	0	
Type of Family				
Nuclear	41	2	0	12.7480, 1, 0.0003*
Joint	10	7	0	
Extended	0	0	0	
Source of Information				
Health Professionals	0	0	0	3.2928, 1, 0.0695*
Family/Friends	38	4	0	
Mass-media	13	5	0	
Other	0	0	0	

[NS]Non-significant *Significant

Conclusion

The findings of the present study indicated that the majority of the study subjects had inadequate knowledge regarding effects of home remedies on dysmenorrhea during the pre-test assessment, highlighting the need for education on this topic. However, following the implementation of a video-assisted teaching program, all study subjects demonstrated adequate knowledge, indicating the effectiveness of the intervention. Additionally, significant association was found with Age of Menarche, Educational Qualification, Area of Residence, Type of Activity, Type of Family and Source of Information regarding effects of home remedies on dysmenorrhea among adolescent girls.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process: None

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