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To Assessment of the Effectiveness of a Structured Educational Program on Women's Knowledge of Sexually Transmitted Diseases in Rural Areas of Ludhiana, Punjab: A Quasi-experimental Study

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Abstract

Background: *Maintaining good health is of immeasurable value, as it empowers individuals to lead socially and economically fruitful lives. However, various disorders have the potential to disrupt one's health. Among these, sexually transmitted diseases (STDs) are the most prevalent disorders affecting the reproductive system and other bodily systems, resulting in significant consequences for both families and society. Sexually transmitted diseases (STDs) can be triggered by various microorganisms, including bacteria (like gonorrhea, syphilis, and Chlamydia), parasites (such as trichomoniasis), and viruses (for example, human papillomavirus, genital herpes, and HIV). While sexual activity plays a major role in the transmission of many infectious agents, it is important to note that infections can occur without sexual contact as well. Sexually transmitted diseases (STDs) exhibit various symptoms such as vaginal discharge (thick or thin, with colors like milky white, yellow, or green), itching in the vaginal area, blisters in the genital area (covered by underwear), rash in the genital area or vagina, burning and pain during urination, and painful intercourse. Screening serves as another diagnostic method for detecting STIs. One recommended screening test for individuals aged 13 to 64 years is a blood or saliva test that checks for the presence of human immunodeficiency virus (HIV), the virus responsible for causing AIDS. Furthermore, the Pap test is employed for the detection of cervical irregularities, which may encompass inflammation, precancerous alterations, and cancer, frequently linked to certain strains of the human papillomavirus (HPV). Our choice to conduct this study is based on the aim of evaluating and contrasting women's knowledge about sexually transmitted diseases in both the control and experimental groups.* ***Materials and Methods:*** *The researcher employed a convenient sampling approach to choose 60 participants, all of whom were women aged between 21 and 45 years. This group was further divided into a 30-member experimental group and a 30-member control group. The study was conducted in specific rural locations, namely, the village of Bassian in Ludhiana, Punjab. This village had a total population of 8165 and was located at a distance of 6 km from GHG College of Nursing in Raikot. From Akalgarh, a village situated in Ludhiana, Punjab, with a total population of 2000, the study indicated that the experimental group achieved the highest post-test mean knowledge score of 20.3, while the control group had a post-test mean knowledge score of 19.8. Therefore, the study's findings indicated that the experimental group had a higher average knowledge score after the test, compared to the control group.* ***Conclusion:*** *The study's results led to the formulation of several conclusions. Initially, the control group exhibited a pretest mean knowledge score of 15.7, while the experimental group had a slightly lower score of 14.46. After the assessment, it was observed that the control group had an average*

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post-test knowledge score of 19.8, while the experimental group achieved a slightly higher score of 20.03. Importantly, it was found that the post-test knowledge score of women in the experimental group, concerning sexually transmitted diseases, was significantly higher than that of the control group, with a statistical significance level of $p<0.05$. No statistically significant correlations were detected between women's knowledge and the demographic factors that were considered.

Keywords: Knowledge, sexually transmitted diseases, women, rural, demographic factors

INTRODUCTION

Sexually transmitted diseases (STDs) are infections that are transmitted through sexual contact between individuals. These infections can be caused by a variety of microorganisms, including bacteria, parasites, fungi, and viruses. There are more than 20 different types of STDs, including Chlamydia, Genital herpes, Gonorrhea, HIV/AIDS, HPV, Syphilis, and Trichomoniasis. When an STD is diagnosed in a pregnant woman, it can result in serious health complications for the infant. Antibiotics are effective in the treatment of STDs that are caused by bacteria, fungi, or parasites. Common symptoms include vaginal discharge (thick or thin, with colors like milky white, yellow, or green), vaginal itching, blisters in the genital area (covered by underwear), rash in the genital area or vagina, burning and painful urination, and discomfort during sexual intercourse. Screening serves as an additional diagnostic approach for detecting STIs. The Pap test is utilized to identify cervical irregularities, such as inflammation, precancerous transformations, and cancer, which are frequently linked to specific strains of the human papillomavirus (HPV). Antibiotics, often administered as a single dose, are capable of effectively treating numerous bacterial and parasitic infections transmitted sexually, including gonorrhea and syphilis [1, 2].

Sexually transmitted diseases have many types such as Gonorrhea, Chlamydia, Syphilis, Genital herpes, HIV/AIDS, Human papilloma virus, and Genital warts [3–6]. But STDs concern with mainly two types i.e., Syphilis and Gonorrhea. The transmission of genital warts, caused by the human papillomavirus (HPV), occurs through close contact between skin surfaces. In instances of primary, secondary, or early latent syphilis in adults and adolescents, the standard treatment approach includes a single intramuscular injection of 2.4 million units of Benzathine penicillin G. For those with late latent syphilis or latent syphilis of undetermined duration, the recommended treatment involves three intramuscular injections of 2.4 million units of Benzathine penicillin G, administered on a weekly basis, resulting in a total of 7.2 million units. Neurosyphilis and ocular syphilis are treated with aqueous crystalline penicillin G, typically at a daily dosage of 18–24 million units. This is achieved through intravenous administration every 4 h or continuous infusion for a duration of 10–14 days. The primary goal of this study is to impart knowledge about sexually transmitted diseases to women in both the control and experimental groups [7–10].

MATERIAL AND METHODS

This study was carried out on women who were in age group of 21–45 years from selected rural areas i.e., villages Bassian and Akalgarh. The researcher employed a convenient sampling technique to choose a total of 60 participants, comprising 30 women in the experimental group and 30 in the control group, all falling within the 21–45 years age group.

Research Approach

Research approach of the study was quantitative/experimental approach.

Research Design

The research design employed for this study was a Quasi-experimental research design, which is depicted as follows:

Experimental group O_1 x O_2

Control Group O_1 O_2
Key:
O_1: Pretest
X: Structured teaching program
O_2: Post-test

The independent variables were: Age of women (in year), education, occupation, religion, type of family, marital status, methods of contraceptives, monthly family income, source of information.

The dependent variable was knowledge among women (21–45 years) regarding sexually transmitted diseases.

Research Setting

This study was carried out in specific rural areas, specifically in Bassian village, Ludhiana, Punjab, and Akalgarh village, Ludhiana, Punjab. The combined population of these two villages was 2000, and the villages were situated approximately 9 km away from Raikot.

Target Population

The study focused on women aged between 21 and 45 years as the target population.

Sample and Sampling Technique

Women who were in age group 21–45 years of selected rural areas i.e., villages Bassian and Akalgarh, Ludhiana were the constituted sample. The researcher employed a convenient sampling method to choose 60 participants, specifically women aged between 21 and 45 years. This group was further divided into two equal groups, with 30 participants in the experimental group and 30 in the control group.

Inclusion and Exclusion Criteria

- Living in designated rural regions, namely Bassian and Akalgarh.
- Women who can Read, Write and understand Punjabi or English.

Exclusion Criteria

- Women who were unavailable during the data collection period.
- Women who expressed unwillingness to participate in the study.

Selection and Development of Tool

- *Section A:* Socio-demographic variables.
- *Section B:* Self structured knowledge questionnaire.
- *Section C:* Structured teaching program.

Data Collection Procedure

- *Permission:* A formal authorization was acquired from the Sarpanch of the rural regions following a discussion regarding the study's purpose and objectives. The women were also provided with a clear explanation of the study's aims, and confidentiality was ensured. All the women gave their verbal consent before being included in the study.
- *Procedure:* The procedure of data collection was carried out in the 1st week of March, 2019 before starting data collection procedure the investigator taken to two groups: experimental and control group. The study involved a total of 60 participants, evenly divided into two groups: 30 in the experimental group from Akalgarh Kalan, Ludhiana, and 30 in the control group from Bassian, Ludhiana. Participant selection was carried out using a convenient sampling technique. Before introducing the intervention, a pretest was administered to both the control and experimental groups. Subsequently, structured teaching was provided to the experimental group using a lesson plan and audiovisual aids. The investigator spent 45 min to complete the teaching. After 7th day, post-test was taken from both groups.

Statistical Analysis

Data was analyzed using SPSS.

RESULT

In the control group, the pretest mean knowledge score was slightly higher at 15.7, while the experimental group had a pretest mean knowledge score of 14.46. Consequently, the study's results suggest that the pretest mean knowledge score of the control group was slightly superior to that of the experimental group, leading to this conclusion. The experimental group achieved the highest post-test mean knowledge score at 20.3, whereas the control group's post-test mean knowledge score was 19.8. The Table 1 depicts that the pretest mean knowledge of control and experimental group 15.7 and 14.46 was observed significant by calculating 't' test. The disparity in posttest mean knowledge scores between the control and experimental groups, which were 19.8 and 20.03 respectively, was determined to be statistically non-significant at the $p<0.05$ level through a 't' test. Consequently, the research hypothesis (H1) was accepted, leading to the conclusion that the implementation of a structured teaching program among women in the experimental group had a positive association with enhancing their knowledge about STDs.

Table 1 reveals that highest 15.7 pretest mean knowledge score was found in control group whereas 14.46 pretest mean knowledge was found among experimental group. Therefore, it was deduced that the mean knowledge score before the intervention in the control group was marginally greater than the mean knowledge score before the intervention in the experimental group (Figure 1).

Table 2 reveals that in control group, maximum 23 (76%) women had good knowledge regarding sexually transmitted disease as followed by 7 (23%) had average level of knowledge and no one had excellent and poor level of knowledge regarding STDs. Whereas in experimental group, maximum 18 (60%) women had good level of knowledge, followed by 12 (40%) had average level of knowledge and none of them had poor and excellent level of knowledge regarding STDs.

Table 1. Pretest mean knowledge score among women regarding sexually transmitted diseases in control and experimental group (N=60).

Knowledge score			
Group	***N***	***Mean***	***SD***
Control	30	15.7	1.83
Experimental	30	14.46	2.09

Maximum score =30; Minimum score =0.

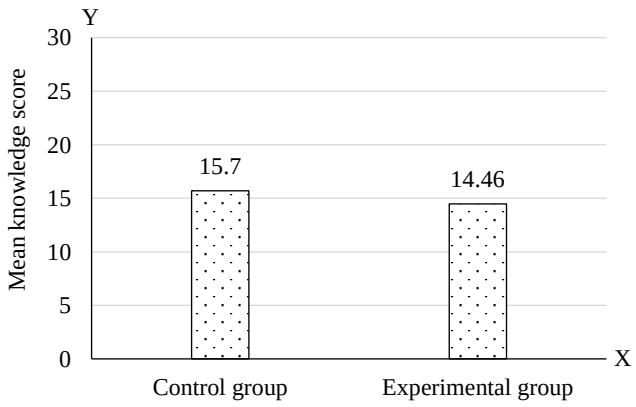

Figure 1. Pretest mean knowledge score among women regarding sexually transmitted diseases in control and experimental group.

Table 2. Frequency and percentage distribution of pretest mean knowledge score among women regarding sexually transmitted diseases in control and experimental group (N=60).

Level of knowledge	Score	%	Knowledge score			
			Control group (n=30)		*Experimental group (n=30)*	
			N	***%***	***n***	***%***
Excellent	≥22	≥73%	0	0	0	0
Good	15–21	50–70	23	76	18	60
Average	8–14	26–46	7	23	12	40
Poor	≤7	≤23	0	0	0	0

Maximum score =30; Minimum score =0.

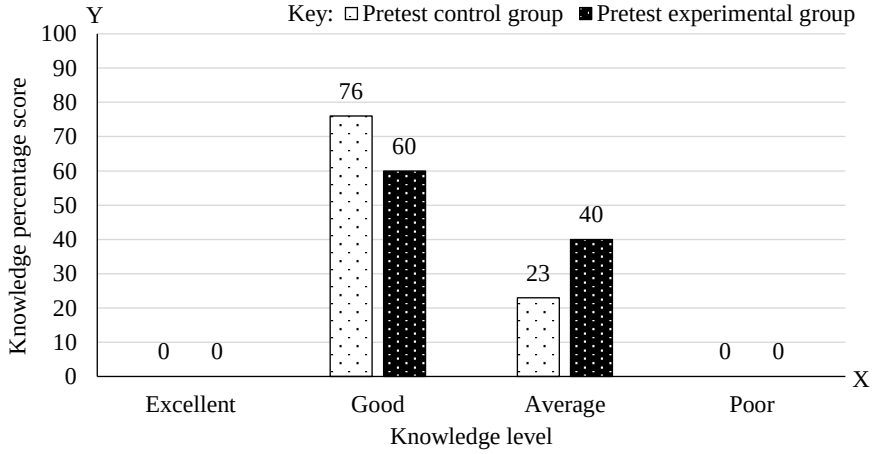

Figure 2. Frequency and percentage distribution of pretest knowledge score among women regarding sexually transmitted diseases in control and experimental group.

Table 3. Post-test mean knowledge score among women regarding sexually transmitted diseases in control and experimental group (N=60).

Knowledge score			
Group	***n***	***Mean***	***SD***
Control	30	19.8	1.52
Experimental	30	20.03	1.26

Maximum score=30; Minimum score=0.

Thus, it was concluded that in both control and experimental group, maximum women had good level of knowledge regarding sexually transmitted diseases (Figure 2).

Table 3 reveals that highest 20.3 post-test mean knowledge score was found in experimental group whereas 19.8 post-test mean knowledge was found among control group (Figure 3).

Therefore, based on the results, it was determined that the experimental group achieved a higher mean knowledge score in the post-test compared to the control group, leading to the conclusion.

Table 4 depicts that in control group, maximum 28 (93%) women had good knowledge regarding STDs, followed by 2 (6.67%) had excellent level knowledge and no one had average and poor level of knowledge regarding STDs. In the experimental group, it was observed that 29 women (96%) exhibited a high level of knowledge regarding STDs, with 1 woman (3.3%) possessing an excellent level of knowledge. None of the women in this group had average or poor levels of knowledge.

Thus, it was concluded that administration of structure teaching program regarding STDs had good relationship with the knowledge of women in an experimental group (Figure 4).

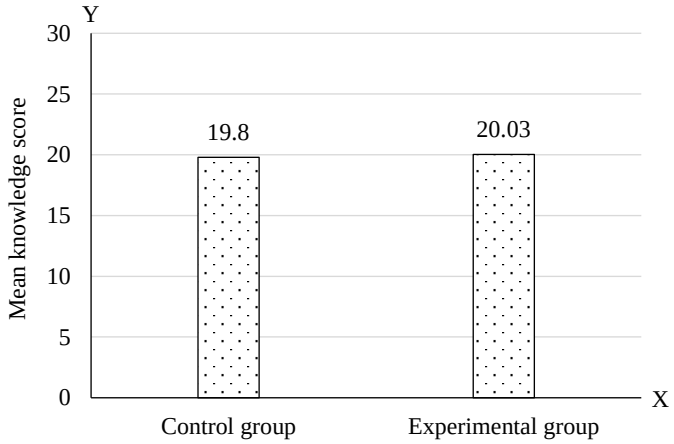

Figure 3. Post-test mean knowledge score among women regarding sexually transmitted diseases in control and experimental group.

Table 4. Frequency and percentage distribution of post-test mean knowledge score among women regarding sexually transmitted diseases in control and experimental group (N=60).

Level of knowledge	Score	%	Knowledge Score			
			Control group (n=30)		*Experimental group (n=30)*	
			N	*%*	*N*	*%*
Excellent	≥22	≥73	2	6.67	1	3.3
Good	15–21	50–70	28	93	29	96
Average	8–14	26–46	0	0	0	0
Poor	≤7	≤23	0	0	0	0

Maximum score=30; Minimum score=0.

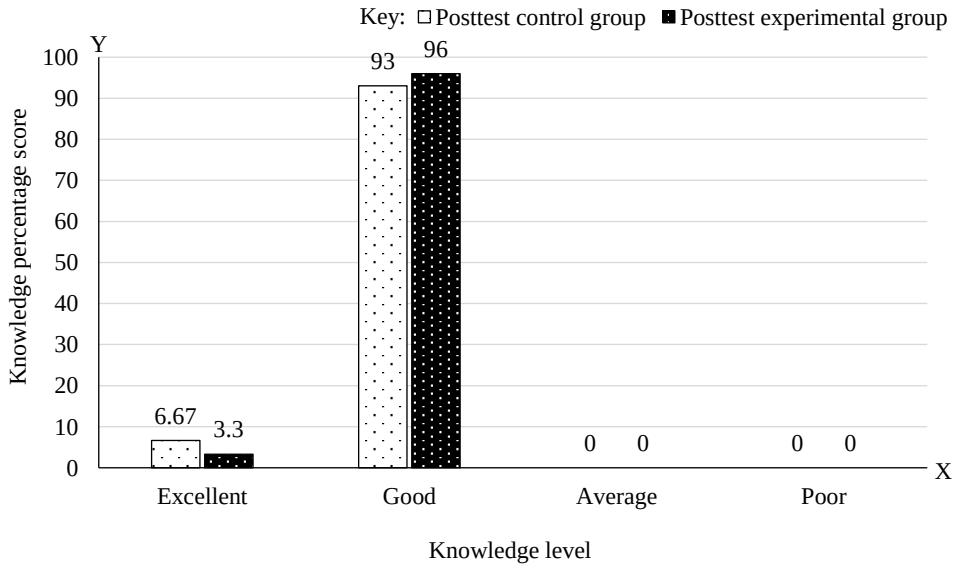

Figure 4. Frequency and percentage distribution of posttest mean knowledge score among women regarding sexually transmitted diseases in control and experimental group.

To Assess the Disparity in Knowledge Scores Regarding Sexually Transmitted Diseases Before and After the Intervention Between Women in the Control and Experimental Groups

Research Hypothesis (H_1)

The study hypothesized that the post-test mean knowledge score of women in the experimental group, as assessed through a self-structured knowledge questionnaire, would be notably greater than the post-test mean knowledge score of the control group, achieving statistical significance at the $p<0.05$ level.

Table 5 demonstrates the pretest and post-test mean knowledge scores of the control group, which were recorded as 15.7 and 19.8, respectively. The disparity in mean knowledge scores between the pretest and post-test in the control group was identified as strongly significant, with a p-value of less than 0.001, established through the 't' test computation. Conversely, the experimental group displayed pretest and post-test mean knowledge scores of 14.46 and 20.03, respectively, which was also found statistically highly significant at the level of $p<0.001$ by calculating 't' test.

Table 5 also depicts that between the groups, the difference between the pretest mean knowledge of control and experimental group 15.7 and 14.46 was observed significant by calculating 't' test. However, when comparing the post-test mean knowledge scores between the control and experimental groups, the difference of 19.8 and 20.03 was determined to be not statistically significant at the $p<0.05$ level, as indicated by the 't' test calculation (Figure 5).

Table 5. Comparative mean pretest and post-test mean knowledge score among women regarding sexually transmitted diseases in control and experimental group (N=60).

Group	**n**	**Knowledge score**				**df**	**'t'**
		Pretest		***Post-test***			
		Mean	*SD*	*Mean*	*SD*		
Control	30	a15.7	1.83	a19.8	1.52	29	8.56^{**}
Experimental	30	b14.46	2.09	b20.03	1.26	29	11.87^{**}
		Df	**'t'**	**df**	**'t'**		
	a+b	58	2.42^{*}	58	0.63^{NS}		

Maximum score =30; Minimum score =0, **Significant at $p<0.001$ level, NS= Non-significant at $p<0.05$ level.

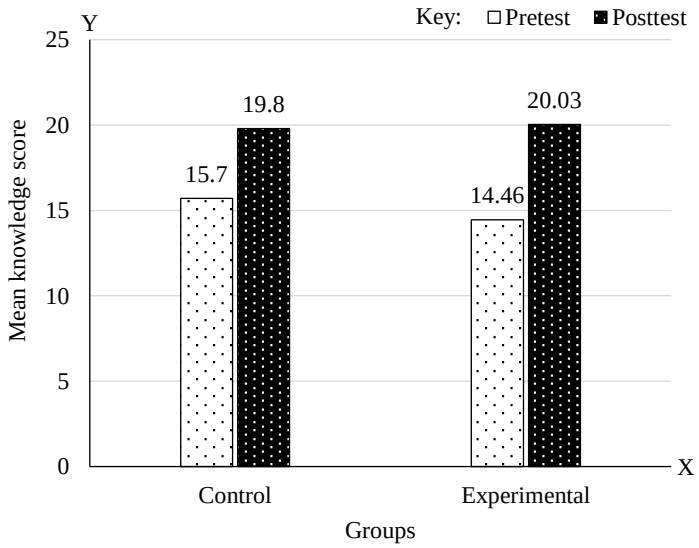

Figure 5. Comparison of pretest and posttest mean knowledge score among women regarding sexually transmitted diseases.

Hence, Research hypothesis (H_1) was accepted. As a result, it was determined that providing a structured educational program to women in the experimental group was positively associated with enhancing their understanding of STDs.

CONCLUSION

In control group, maximum 28 (93%) women had good knowledge regarding STDs as followed by 2 (6.67%) had excellent level knowledge and no one had average and poor level of knowledge regarding STDs. In the experimental group, the majority of women, specifically 29 (96%), displayed a good level of knowledge concerning STDs. Additionally, 1 woman (3.3%) in this group demonstrated an excellent level of knowledge, while none of the participants fell into the categories of average or poor knowledge. Thus, it was concluded that administration of structured teaching program regarding STDs had good relationship with the knowledge of women in an experimental group.

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