Indian Journal of Nursing Sciences

International Peer Reviewed Journal

Research article

Effectiveness of video-assisted teaching module on knowledge and attitude of college students on HIV/AIDS

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Aim: To assess the existing knowledge and attitude regarding HIV/AIDS among the college students. To assess the effectiveness of VATM on the knowledge and attitude regarding HIV/AIDS among the college students. **Materials and Methods:** Pre and posttest with control group design was adopted to assess the effectiveness of Video teaching towards knowledge and attitude regarding HIV/AIDS among the 400 (200 in control and 200 in experimental group) college students. Data was collected by a structured questionnaire on knowledge and attitude about HIV/AIDS. **Results:** The distribution of the demographic characteristics of college students in experimental and control group. In both, the experimental and control group 58% and 53.5% of the students were in the age group of 19 to 20 years respectively. Overall knowledge regarding HIV/AIDS among the college students in the experimental group had significantly improved after the intervention than that of the control group. Comparison of pre and posttest mean attitude score among the college students towards HIV/AIDS in the experimental group and control group highlights that in the experimental group the mean attitude score increased from 57.15 in the pretest to 67.33 in the posttest after intervention. **Conclusion:** Video teaching module was shown effective to improve knowledge and attitude of the college students regarding HIV/AIDS

Key words: Teaching module, HIV/AIDS, Video teaching.

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1. Introduction

HIV/AIDS is one of the global challenge today and around 36.9million people were living with HIV. It is also estimated that India accounts for 38% of all new HIV infections in the asia and the Pacific region [1-3]. Worldwide, the adolescents and young people represent a growing population of people living with HIV. In 2014, about 620,000 young people aged between 15 and 24 were found newly affected by HIV [4-6] and about 3500 young people aged between 15 and 24 become HIV positive every day [7-8]. In India, it was reported that over 35% of AIDS cases found among the young people aged 15 – 24 years,

Access this article online

Website:www.innovationalpublishers.com/journal/ijns | eISSN: 2581-463X

DOI: doi.org/10.31690/ijns/21

How to cite this article: A. Felicia Chitra, Kalavathi, Manjubala Dash, Effectiveness of video assisted teaching module on knowledge and attitude of college students on HIV/AIDS, Ind. J. Nur. Sci. 2018; 3(2): 30-36.

Adolescents comprise 22% of India's population and they are the fulcrum of Indian society [10]. Lack of knowledge about HIV/AIDS, inaccessibility to health services, lack of education and life skills and early marriage, all have increased the vulnerability of HIV/AIDS [11-12]. In order to stop the spread of virus, the Indian Government set up the National Aids Control Organization (NACO) to oversee the policies, prevention and control programmes related to HIV/AIDS. The State AIDS Control Societies (SACS) work hard to implement the national control programmes for HIV prevention. The National AIDS Control Program (NACP) was implemented in three phases with specific objectives [13-14]. Measures like blood safety checks, youth campaigns, awareness programmes through various public platforms like Radio, Television, Street Plays, Messages from popular Indian Film Stars, Video Films, Games, Quiz, etc. are being implemented to health educate and bring about behavioral changes among the high risk group and general public, particularly, among the young people who are prone to risky behavior [15-16].

Several studies have shown the fact that, though the young people, comprising of college students, do have good comprehensive knowledge about HIV/AIDS, they have misconceptions about certain areas like transmission and prevention of the HIV. Further there are many studies which spotlight the effectiveness of video-assisted teaching module in creating awareness and providing information to college students [17].

Hence the Researcher has taken this study to assess the knowledge and attitude of the college students and further to improve their knowledge and attitude through the Video teaching.

Objectives of the study

- To assess the existing knowledge and attitude regarding HIV/AIDS among the college students.
- To assess the effectiveness of VATM on the knowledge and attitude regarding HIV/AIDS among the college students
- To associate the knowledge and attitude regarding HIV/AIDS among the college students with selected demographic variables

Hypotheses of the study

H_1: There will be significant increase in the posttest knowledge scores regarding HIV/AIDS among the college students in the experimental group than those in the control group.

H_2: There will be significant improvement in the posttest attitude scores towards HIV/AIDS among the college students in the experimental group than in the control group.

2. Materials and methods:

Research design

True - Experimental research design - pre and posttest with control group design was adopted to assess the effectiveness of intervention towards knowledge and attitude regarding HIV/AIDS among the college students.

Research settings

The study was conducted in Arts, Science, Engineering and B.Ed. colleges in the union territory of Pondicherry. The colleges selected for the study are affiliated to Pondicherry university and were situated 0.1-15 Km away from the place of the investigator. The colleges had total strength of students from a minimum of 700 to a maximum of 2000 and above with many departments of Arts and Science, Engineering subjects with students enrolled from both rural and urban areas.

Sample and sample size

Sample refers to all the college students studying in the selected colleges in Puducherry affiliated to Puducherry University and who fulfilled the inclusion criteria during the period of study. In the present study, 400 college students, 200 in each of experimental and control group were recruited.

Sampling technique

Five – stage cluster sampling technique was used for this study. Out of all the colleges affiliated to Pondicherry University, the colleges were clustered region wise (Puducherry, Karaikal, MAHE and Yanam) at the first stage. Out of the 4 regions, Puducherry was selected by convenience sampling technique. In the second stage, the colleges in Puducherry, were clustered discipline wise (Arts & Science, Engineering, B.Ed, Law, Agriculture, Poly technique etc.) and Arts and Science, Engineering, B.Ed colleges were selected. At the third stage, from the clusters (68) of Arts and Science, Engineering, B.Ed. colleges, 4 colleges were randomly selected using lottery method. In the fourth stage, 2 disciplines were selected randomly from each college. In the fifth stage, from each of the selected discipline 50 students were selected using systematic sampling method. Thus, 200 college students in the experimental group and 200 college students in the control group were recruited.

Criteria for sample selection

Inclusion criteria

College students;

- Both male and female
- Both UG and PG
- Both married and unmarried
- Of arts, science, engineering or B.Ed colleges
- Who would willingly participate in the study
- Who can read and write English or Tamil

Exclusion criteria

College students;

- Who were differently abled particularly with hard of hearing
- In medical, nursing & other paramedical courses.

Ethical consideration

Ethical clearance was obtained from the Institutional Human Ethical Committee of Rajah Muthiah Institute of Health Sciences for conducting the study. Permission from the individual college authorities and an informed consent from each of the participants was obtained for the study.

Description of the tool and scoring procedure

The final tool used in the present study consisted of the 3 sections as described below:

Section-A : Assessed the socio-demographic variables like age, gender, marital status, family status, place of residence, religion, educational status and HIV/AIDS awareness program using 8 structured-questions.

Scoring pattern

For the socio-demographic variables, no score was allotted.

Section-B:
It was a structured questionnaire on knowledge about HIV/AIDS with 53 items distributed under various sub-topics.
General information - 5 items
Transmission - 21items
Signs and symptoms - 10 items
Diagnosis and treatment - 7 items
Prevention - 5 items
At risk of contracting HIV/AIDS - 5 items

Scoring pattern

The correct answers were given score of 1 and the wrong answers were given a score of 0. The total score was 53. The level of knowledge of the college students were classified as below:
Table No. 1

Score	Percentage (%)	Level of knowledge
40-53	>75	Adequate
27-40	50-74	Average
0 -27	<50	Poor

Section-C: It was a 5-point Likert scale to measure the attitude towards HIV/AIDS. There were 18 statements with 9 positive and 9 negative statements.

Scoring

The positive statements were rated on 5 points – Strongly Agree-5, Agree-4, Neutral-3, Disagree-2, and strongly disagree-1. The maximum score for positive statements were 5 and the negative statements were scored reversely. Thus, the total score was 90. The obtained scores were classified into 3 levels of attitude as below:
Table No. 1

Level of Attitude	Score	Percentage
Negative	0-36	Below 40
Neutral	36-54	40% - 60
Positive	54-90	Above 60

Description of the intervention

The Video-Assisted Teaching Module (VATM) on HIV/AIDS was the intervention. The content of the VATM was prepared based on the literatures referred from books, journals, report articles, magazines, pamphlets, etc regarding HIV/AIDS. Then, the content was organized under the following headings.

- Introduction
- Definition of the HIV/AIDS
- Mode of transmission of HIV/AIDS
- Signs and symptoms
- Diagnostic measures
- Treatment of HIV/AIDS
- Prevention of HIV
- Conclusion

VATM duration was 28 minutes
The content of VATM was given for content validity along with the tool, to various experts in the field of nursing and medicine. The content of the VATM was translated into the local language Tamil and was retranslated into English to determine the correctness of the translation and was also certified by the language experts. The VATM CD was also validated by the experts for its content
The reliability of the tool was established by using Cronbach's alpha method separately for the each sections. The obtained values were
Section – B : Knowledge of HIV / AIDS – 0.883.
Section – C: Attitude towards HIV/AIDS – 0.812

Data collection procedure

Permission from concerned authority was obtained.

- Prior to the data collection, written permission was obtained from the college authorities
- Ethical clearance was obtained from the Institutional Human Ethical Clearance Committee.
- Informed consent from each of the participants was taken prior to data collection.

Step 1: The tool for data collection was distributed to the students and were asked to fill in the self administered questionnaire. The student took around 40-45 minutes to fill in the questionnaire.

Step 2: The video-session was arranged for the students in the experimental group alone which went on for around 25-30 minutes. The video-session was conducted for a group of 50 students at a time. The students were given the contact number of the investigator to clarify further doubts regarding the topic after the session.

Step 3: Posttest was conducted on the 8^{th} day after the initial data collection and video-session. Once again, the self-administered questionnaire was distributed among the participants in both the experimental and the control group.

Table 3: Socio-Demographic variable of the college students in both experimental and control group (N = 400)

Variable	Sub-variable	Experimental Group (n = 200)		Control Group (n = 200)		Chi-Square test	df	P value
		No.	%	No.	%			
Age (in years)	17-18	34	17	47	23.5	2.738	3	0.434 (NS)
	19-20	116	58	107	53.5			
	21-22	32	16	31	15.5			
	22-23	18	9	15	7.5			
Gender	Male	62	31	64	32	0.046	1	0.830 (NS)
	Female	138	69	136	68			
Marital status	Single	193	96.5	191	95.5	0.260	1	0.610 (NS)
	Married	7	3.5	9	4.5			
Place of residence	Rural	65	31.5	116	58	26.247	1	0.000 (S)
	Urban	135	67.5	84	42			
Religion	Hindu	29	14.5	19	9.5	4.256	2	0.119 (NS)
	Muslim	7	2	3	1.5			
	Christian	16	82	178	89			
Family status	Joint	44	22	50	25	0.501	1	0.479 (NS)
	Nuclear	156	78	150	75			
Educational status	Under graduate	172	86	160	80	2.551	1	0.110 (NS)
	Post graduate	28	14	40	20			
HIV/AIDS awareness session participation	Attended	55	27.5	53	26.5	0.051	1	0.822 (NS)
	Not attended	145	72.5	147	73.5			

S - Significant at 0.05 level, NS - Non Significant

The posttest data were collected from the students. Only 187 students in experimental and 194 students in control group completed the posttest.

Table– 4 Comparison of the overall mean pretest and posttest knowledge score on HIV/AIDS among the college students in the experimental and control group

N = 400

Items	Experimental group (n = 200)		Control group (n = 200)		't' test	p value
	Mean	SD	Mean	SD		
Pretest Overall knowledge	0.497	0.132	0.507	0.139	0.720	0.472 (NS)
Posttest Overall knowledge	0.756	0.242	0.444	0.16	14.92	0.000 (S)

NS – Non Significant, S - Significant at 0.05 level

3. Result

The distribution of the demographic characteristics of college students in experimental and control group. In both, the experimental and control group 58% and 53.5% of the students were in the age group of 19 to 20 years respectively. Regarding gender, 69% and 68% were female in the experimental and control group respectively. Regarding marital status, in both the experimental and control group most (96.5% and 95.5%) of the students were single. Regarding place of residence, in the experimental group, 67.5% of the students were from the urban area where as in the control group, 58% of them were from rural area.

In relation to religion, 82% and 89% were Hindus in the experimental and control group respectively. Regarding family status, most 75% to 78% of the students in both groups were from nuclear families respectively. In both experimental and control groups, 80% to 86% of the students were undergraduates. In relation to participation in HIV session, 72.5% and 73.5% of the students in the experimental and control group respectively had not attended any awareness sessions on HIV/AIDS. The non-significant p value indicated that the socio – demographic

Table 5: Comparison of Pre and Posttest Mean Knowledge Score among the College Students Regarding Various Aspects of HIV/AIDS in Both Groups (N = 400)

Aspects	Group	Pretest		Posttest		Paired 't' test	p value
		Mean	S.D	Mean	S.D		
General information	Experimental	0.412	0.213	0.737	0.287	12.668	0.000 (S)
	Control	0.423	0.237	0.403	0.242	1.112	0.268 (NS)
Transmission	Experimental	0.607	0.151	0.794	0.252	9.206	0.000 (S)
	Control	0.597	0.167	0.512	0.202	6.016	0.000 (S)
Signs and symptoms	Experimental	0.417	0.188	0.701	0.271	12.344	0.000 (S)
	Control	0.451	0.212	0.395	0.225	3.527	0.000 (S)
Treatment	Experimental	0.421	0.234	0.776	0.279	13.710	0.000 (S)
	Control	0.491	0.239	0.430	0.245	3.168	0.002 (S)
Prevention	Experimental	0.368	0.230	0.699	0.309	12.345	0.000 (S)
	Control	0.334	0.246	0.313	0.233	1.257	0.210 (NS)
Risk	Experimental	0.534	0.315	0.772	0.313	8.120	0.000 (S)
	Control	0.556	0.307	0.474	0.327	3.207	0.002 (S)

S - Significant at 0.05 level , Maximum Score = 1, Minimum Score = 0

variables wise distribution of students in both experimental and control group were similar except for the variable place of residence before the intervention. (Table3),

The overall mean pretest knowledge score in the experimental group was 0.497± 0.132 and 0.507± 0.139 in the control group. The 't' test value was 0.720 at p value 0.472(NS) indicates that the mean score on the overall knowledge regarding HIV/AIDS of the college students in both experimental and control group were similar before the intervention.

The overall mean Posttest knowledge score regarding HIV/ AIDS among college students in the experimental group was higher (M=0.756; SD = 0.242) than the control group (M=0.444; SD = 0.168). The' t' test value (14.925) computed to test the significance of the finding revealed, that the difference in the knowledge level regarding HIV/AIDS among college students between experimental and control group after intervention was highly statistically significant at p value 0.000. Thus, the overall knowledge regarding HIV/AIDS among the college students in the experimental group had significantly improved after the intervention than that of the control group. (Tab-4).

Comparison of pre and post intervention mean knowledge score among the college students regarding various aspects of HIV/AIDS in the experimental group and control group. The significant p values showed that in experimental group the knowledge score regarding all the aspects of HIV/AIDS significantly increased in posttest as compared to pretest. In the control group, the non- significant p values in certain aspects of HIV/AIDS like the general information and prevention revealed that there was no change between the pre and posttest mean knowledge score of the college students. However, the significant P values in certain other aspects of HIV/AIDS like Transmission, Signs and symptoms, Treatment and Risk showed that the knowledge scores in these areas significantly decreased in posttest when compared to pretest. Thus, it was elicited, that the intervention had significantly increased the knowledge regarding all aspects of HIV/AIDS among the college students in the experimental group when compared to control group (Tab-5).

Comparison of pre and posttest mean attitude score among the college students towards HIV/AIDS in the experimental group and control group highlights that in the experimental group the mean attitude score increased from 57.15 in the pretest to 67.33 in the posttest after intervention. The paired t test value 11.30 at P =0.000 indicated that there was a highly statistically significant difference in the attitude towards HIV/ AIDS between the pre and posttest score, thus indicating that the intervention had influenced in improving the attitude towards HIV/AIDS among the college students in the experimental group in the positive direction (Tab-5).

4. Discussion

The present study finding is congruent with the findings of the study conducted previously by Adeomi et al., (2014) which reported that there was no statistically significant difference in the knowledge of the college students in the study and control group before the intervention. The

Table 6: Comparison of Pre and Posttest Mean Knowledge Score among the College Students Regarding Various Aspects of HIV/AIDS in Both Groups N = 400

Items	Attitude towards HIV					
	Pretest		Posttest		Paired 't' test	p value
	Mean	S.D	Mean	S.D		
Experimental Group	57.155	7.4332	67.331	9.815	11.302	0.000
Control Group	56.528	6.780	53.378	5.856	6.807	0.000

S - Significant at 0.05 level, NS - Non Significant 0

posttest overall mean knowledge score of the college students regarding HIV/AIDS in the experimental group was 0.756 ±0.242 was higher than the mean score of control group 0.444 ± 0.168. The significant p value revealed that the overall knowledge regarding HIV/AIDS among the college students in the experimental group was significantly improved than the control group. The finding is similar to the findings of the study by Adeomi (2014) who reported that there was no statistically significant difference in the attitude of the college students in the experimental and control group before the intervention.[18]

Further the result also supported by various studies like Gao et al., (2012) conducted the study on "effectiveness of school based education on HIV/AIDS knowledge, attitude and behaviour among secondary school students in Wuhan, China". The study result showed that after the intervention all of the students had significant improvement in knowledge and attitude regarding HIV/AIDS, indicating the effect of educational program[19]. Egole and Adaeze (2011) conducted a study on the "Effect of HIV/AIDS awareness training program among college students in Owerri, Imo state of Nigeria". The study result demonstrated that there was percentage changes in the participants" pre and posttest knowledge, attitude and behaviour data which reflected on the positive effects of the training on the participants [20]. Okanlawon and Asuzu (2011) conducted a study on "effect of peer education intervention on secondary school adolescent's reproductive health knowledge in Saki, Nigeria". The results revealed that the intervention had significant effect on adolescents in the experimental group by improving the knowledge of adolescents on reproductive health[21]. Angadi, Sorganvi and Algur (2013) conducted a study on "impact of health education on knowledge regarding human immunodeficiency virus/ acquired immunodeficiency syndrome among the college students, Karnataka, India". The results showed that there was significant difference between pre and posttest knowledge regarding HIV/AIDS by demonstrating a substantially improvement in the knowledge regarding HIV/AIDS and in specific to certain areas of HIV/AIDS knowledge [22].

Conclusion

VATM had significant effect in improving the knowledge and attitude of college students regarding HIV/AIDS in the experimental group. Hence, various teaching programmes are recommended to create awareness and develop positive attitude towards HIV/AIDS.

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