

A Pre-Experimental Study to Assess the Effect of Video-Assisted Teaching on Knowledge Regarding Preventive Measures of AIDS among Adolescents at Selected School of Bhopal (MP)

Rahul Meena

Summary

Adolescence is the second decade of life (13-19 years), and a period of both physical as well as psychological development. This is a phase of experimentation and risk that includes early sexual debut, sexual coercion and violence, trafficking, and substance abuse. Along with these, other factors such as the lack of knowledge about HIV/AIDS, inaccessibility to health care services and commodities, lack of education and life skills, and early marriage have increased their vulnerability to HIV/AIDS. Since adolescents comprise a major part of reproductive group, they are likely to play a significant role in determining the future growth pattern of India's population and economy. Thus, it is crucial that investment in terms of finances, research and development policies be done to improve their well-being. A pre-experimental one group pre-test, post-test research design was selected for this study to gather data from adolescents regarding prevention of AIDS. A sample of 100 adolescents was selected using purposive sampling technique. Structured questionnaire was used by the investigator for data collection. Video-assisted teaching was administered to adolescents to improve their knowledge. The structured knowledge questionnaire and video film (video-assisted teaching material) were validated by the experts. Further, pilot study was conducted on 10 samples to assess the reliability of the questionnaire where Karl Pearson correlation co-efficient ($r=0.86$) proved the reliability. After the pilot study, main study was carried out on 100 adolescents. As a first step pre-test knowledge of adolescents was assessed. Thereafter, video-assisted teaching was provided to the same sample. The same teaching materials were also provided in CD form. Finally, post-test knowledge was taken after 7 days with the same sample. Opinion regarding video film was also taken on day 7. This study revealed that there is significant difference between mean pre-interventional and post-interventional knowledge score on preventive measures of HIV / AIDS among adolescents (mean difference=2.0 and t -value=21.51, significance at 0.05 level). On the basis of its hypothesis H1 was accepted. It signifies that video-assisted teaching is effective in increasing the knowledge of adolescents.

Key words: HIV/AIDS, Adolescents, Psychological development, Video-assisted teaching

AIDS has evolved as the emerging disease only in the early 1980s, and has since rapidly established itself throughout the world. It is likely to endure and persist well in the 21st century. AIDS has evolved from a mysterious illness to a global pandemic infecting tens of millions in less than 20 years (Park, 2013). An estimated 34-36 million people have died from AIDS, 3 million in 2003 alone, and 4 million children were infected since the virus first appeared. Of the 5 million people who became infected with the virus in 2003, about 0.7 million were children, almost as result of transmission

during pregnancy and at a child birth or from breastfeeding.

Government of India estimates that about 2.40 million Indians are living with HIV (1.93-3.04 million) with an adult prevalence of 0.31 percent (2009). Children below 15 years account for 3.5 percent of all infections, while 83 percent are in age group 15-49 years; of all HIV infections, 39 percent (930,000) are among women.

Need of the study: During school health programme the investigator visited schools and did assessment. It was found that the adolescent students were not having adequate knowledge regarding the prevention of HIV/AIDS. Investigator felt there is need to motivate, educate and assess

The author is Assistant Professor in Chirayu College of Nursing, Bhopal (MP)

the level of knowledge and create awareness regarding prevention of HIV/AIDS. Investigator also believed that adolescent students are the change agent and through them society can be motivated easily beginning from their family.

Review of Literature

Shweta et al (2012) conducted a study to assess the knowledge and belief among school going adolescents to assess their level of awareness regarding HIV/AIDS in Udupi district of Karnataka. Total 800 students from 5 English medium schools were given a structured HIV questionnaire and asked to fill it and return within minutes. Then the results were analysed. Though majority of students had heard about HIV/AIDS, the knowledge regarding its transmission, diagnosis, treatment and ways of its spreads were found to be inadequate. There is still a lot of scope to make the adolescents more aware of HIV/AIDS which would help them adopt a positive behaviour and limit the spread of infection.

Abbas Uddin et al (2010) conducted a descriptive co-relational study among 88 adolescents who were asked to provide information about knowledge and attitude regarding HIV/AIDS prevention. Knowledge was categorised as low, fair and high level. Attitude was sub-categorised as negative, neutral on positive. The results revealed that adolescents had fair level of knowledge though misconceptions were found in non-transmittable routes of knowledge. Attitude level was neutral; still they had some negative attitudes towards HIV/AIDS prevention.

Objectives

The objectives of the study were to:

- Assess the pre-interventional knowledge score regarding preventive measures of AIDS among adolescents and assess the post-interventional knowledge score regarding preventive measures of AIDS among adolescents.
- Associate the pre-interventional knowledge scores regarding preventive measures of AIDS among adolescents with their selected demographic variables.
- Determine the opinion of adolescent regarding Video Teaching Programme.

Assumptions: The adolescents require the knowledge on prevention of AIDS among adolescents for quality of their future life.

Methodology

The research design has been given in Fig 1.

Research approach: The researcher chose a quantitative research approach for the study.

Setting of the study: This study was set in the Government Mahatma Gandhi Higher Secondary School, Gandhinagar, Bhopal (MP) which is about 3 km away from the Pragyan College of Nursing, Bhopal located near Airport, Bhopal.

The investigator found that the setting is appropriate for conducting the study because of feasibility in conducting the study, availability of samples, investigators familiarity with the school setting and co-operation and administrative approval for conducting the study.

Ethical consideration:

Written permission was obtained to conduct the study from the school. The purpose of the study was explained in detail to the adolescent students. They were assured that the topic of the study would be beneficial to the adolescent students, the intervention would not cause any harm to the samples or working environment and that confidentiality would be maintained by assigning code to each sample

Sampling technique: The researcher has taken **purposive sampling technique** because researcher adolescents enrolled were willing to participate in the programme, and they understood Hindi/English language.

Results

Pre- and post-interventional knowledge scores of adolescents regarding HIV/AIDS and its prevention are depicted in Table 1 and Table 2 respectively. Table 3 shows the categorical differences before and after intervention, about preventive measures for AIDS. Comparison of mean, mean percentage and standard deviation knowledge scores of adolescents regarding preventive measures for AIDS before and after intervention is set out in Table 4.

Table 1: Frequency and percentage distribution of pre-interventional knowledge score of adolescents regarding preventive measures of AIDS (N=100)

Score	Grading	Pre-test		Mean	Standard deviation
		Frequency (f)	Percentage (%)		
0-10	Poor	61	61	9.74	3.13
11-20	Average	39	39		
21-30	Good	0	0		

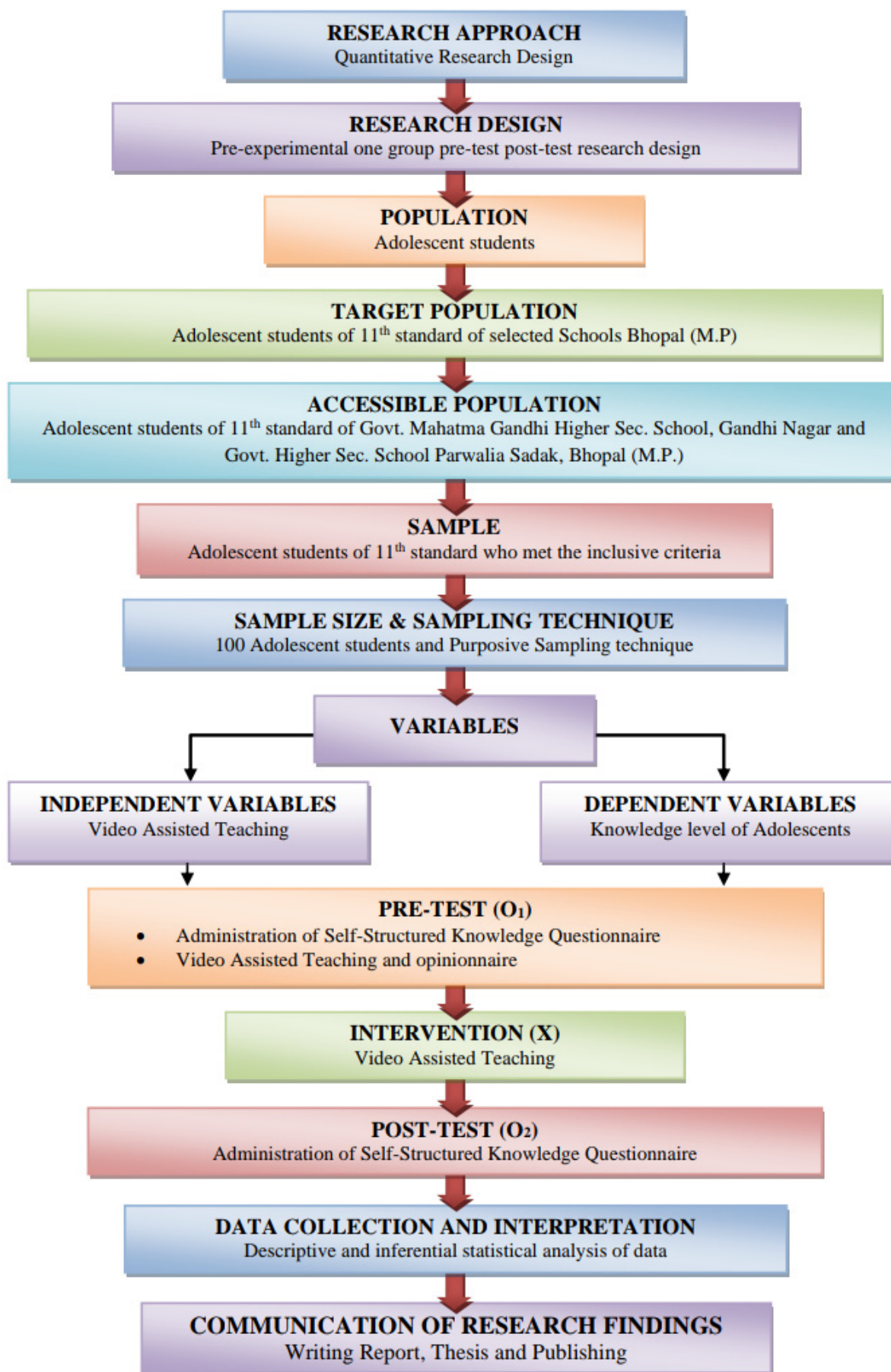


Fig 1: Schematic representation of research design.

Table 2: Frequency and percentage distribution of post-interventional knowledge score of adolescents regarding preventive measures of AIDS (N=100)

Score	Grading	Pre-test		Mean	Standard deviation
		Frequency (f)	Percentage (%)		
0-10	Poor	0	0	19.5	3.10
11-20	Average	36	36		
21-30	Good	64	64		

Table 3: Categorical difference between pre-and post-test knowledge score regarding preventive measures of AIDS (N=100)

Score	Grading	Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
0-10	Poor	61	61	0	0
11-20	Average	39	39	36	36
21-30	Good	0	0	64	64

Table 4: Comparison of mean, mean percentage and standard deviation of pre-and post-interventional knowledge score of adolescents regarding preventive measures of AIDS

	Mean	Mean difference	Mean percentage	Standard deviation	t-value
Pre-test	9.74	2.0	32.33	3.13	21.51*
Post-test	19.5		65	3.10	

*t' 0.05, 99=1.98, p≤0.05

* indicates significance at the level of 0.05.

Chi square value relation between level of knowledge of preventive measures of HIV/AIDS among adolescents in selected Hr Sec School, Bhopal is outlined in Table 5.

Table 5: Association of pre-test knowledge score with selected demographic variables (N=100)

Variables Poor	Pre-test Knowl- edge Score			df	Chi- square value
	Av- er- age	Good			
Age in years					
13-14	23	1	0	1	16.8*
15-16	38	38	0		
Gender					
Male	30	14	0	1	1.69
Female	31	25	0		
Subjects of the study					
Biology Science Group	13	7	0	3	3.64
Mathematics Science Group	12	10	0		
Arts Group	29	21	0		
Commerce Group	7	1	0		

Variables Poor	Pre-test Knowl- edge Score			df	Chi- square value
	Av- er- age	Good			
Religion					
Hindu	33	30	0	3	7.88*
Muslim	16	8	0		
Christian	6	0	0		
Others	6	1	0		
Family pattern					
Nuclear family	29	19	0	2	0.22
Joint family	22	15	0		
Extended family	10	5	0		
Residential status					
Slum	10	3	0	3	15.29*
Urban slum	13	18	0		
Colony	24	18	0		
Posh colony/covered col- ony	14	0	0		

Scholastic performance on the basis of previous class percentage

33%-50%	10	3	0	3	2.83
51%-60%	17	15	0		
61%-74%	15	12	0		
75% and above	11	4	0		

Types of friendship

Close friendship	24	14	0	2	4.69
No formal friendship	9	1	0		
Formal friendship	28	24	0		

Habit pattern

Smoking	9	0	0	4	12.31*
Consumption of alcohol	3	0	0		
Chewing gum	9	9	0		
Attending Hukka Lounge	9	2	0		
Others	31	28	0		

Previous information regarding HIV/AIDS

Yes	5	12	0	1	8.49*
No	56	27	0		

If yes, the resources are-

Health professionals	0	3	0	3	3.16
Media	2	2	0		
Friends	3	5	0		
Through school education	0	2	0		

Df (1), 3.84, p<0.05, Df (3), 7.82, p<0.05, Df (3), 7.82, p<0.05, Df (4), 9.49, p<0.05, Df (1), 3.84, p<0.05

* indicates significant at the level of 0.05.

Table 6 show the assessment of opinionnaire regarding video film on adolescents.

Table 6: Assessment of the opinionnaire regarding video film among adolescents on preventive measures of AIDS (N=100)

S. No.	Video opinionnaire	Agree		Partially agree	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1	The video film is effective	193	193	4	4
2	Language is understandable	192	192	4	4
3	The video film is innovative	186	186	7	7
4	Color combination of the video film is attractive	194	194	3	3
5	The voice of video film is audible	182	182	9	9
6	Video explanation is useful	182	182	9	9
7	The video pictures are visible	178	178	11	11
8	The video film is understandable	148	148	26	26
9	The clarity of video film is impressive	156	156	22	22
10	The duration of video film is appropriate	162	162	19	19

Table 7: Assessment of the opinionnaire regarding video film among adolescents on preventive measures of AIDS

Video opinionnaire	Frequency (n)	Percentage (%)
Disagree (0-7)	0	0
Partially agree (8-14)	9	9
Agree (15-20)	91	91

Major Findings

Description about the samples of demographic variables.

- Most of the selected adolescents i.e. 76 (76%) belonged to the age group of 15-16 years. Majority of the selected adolescents i.e. 56 (56%) were female.
- Majority of the selected adolescents i.e. 50 (50%) belonged to arts group, were Hindu (n= 63, 63%) belonged to nuclear family (n=48, 48%), live in colony (n=42, 42%), were scholastic. 32, 32% range 51%-60% had formal friendship 52, 52%.

- Majority of adolescents (n=83, 83%) reported that they had no previous knowledge regarding prevention of HIV/AIDS.

Conclusion

The conclusion is drawn from the study based on the assessment of the effect of video assisted teaching on preventive measures of AIDS among adolescents in selected school of Bhopal. After detail analysis of the study findings and experience of the investigator, the study leads to the following conclusion.

Mean post-interventional knowledge (19.5) is apparently higher than the mean pre-interventional knowledge (9.74). The computed 't' value 21.51, shows that there is a significant difference between pre-interventional knowledge and post-interventional knowledge. This indicates that the hypothesis H_1 is accepted, stating that the mean post-interventional knowledge is significantly higher than the mean pre-interventional knowledge at 0.05 level of significance.

There is a significant association of pre-interventional knowledge with selected demographic variables of adolescents i.e. "Age, Religion, Residential status, Habit pattern and You have previous information regarding HIV/AIDS" at 0.05 level of significance. This indicates that hypothesis H_2 is partially accepted.

Discussion & Conclusion

This study intended to find out the effectiveness of video-assisted teaching on preventive measures of AIDS of adolescents.

Section-A: Distribution of adolescents according to their demographic variables

Majority of the selected adolescents i.e. 76 (76%) belonged to the age group 15-16 years and 24 (24%) belonged to the age group 13-14 years. Thus, most of adolescents were in the age group of 15-16 years. This profile contrasts with the study of Li-Pong, et al (2008), where only adolescents belonged to the age group of 15-19 years and 20-24 years.

Most of the selected adolescents i.e. 56 (56%) were female and 44 (44%) were male. It seems that most of adolescents were female. This Profile somewhat aligns with the study of Li-Pong, et al (2008), where adolescents were 51.1 percent were male and 48.9 percent were female.

Half of the selected adolescents (n=50, 50%) belonged to the arts group, 22 (22%) to the mathematics science group, 20 (20%) to the biology & science group and 8 (8%) belonged to commerce group. It seems that most of the adolescents were in arts group. Majority of the selected adolescents (n=63, 63%) were Hindu, (n=24, 24%) were

Muslim, 7 (7%) belonged to the others and 6 (6%) were Christian. Thus most of the adolescents were Hindu.

Regarding the types of the family, majority (n=48, 48%) belonged to the nuclear family, 37 (37%) to the joint family and 15 (15%) belonged to extended family. It seems that most of the adolescents belonged to the nuclear family. Regarding the residential status, the majority, (n=42, 42%) belonged to the colony, 31 (31%) belongs to the urban slum, 14 (14%) to the posh colony/ covered colony and 13 (13%) belonged to slum. Thus most of the adolescents belonged to the colony. This profile slightly contrasts with the study of Li-Pong et al (2008), where adolescents belonged to urban and rural areas.

Regarding the scholastic performance on the basis of previous class percentage, about a third of adolescents (n=32, 32%) belongs to the 51-60 percent, 27 (27%) to the 61-74 percent, 26 (26%) to 33-50 percent and 15 (15%) belonged to 75 percent and above. Thus most of the adolescents' scholastic performance on the basis of previous class percentage was 51-60 percent. Majority of the selected adolescents (n=52, 52%) had formal friendship, 38 (38%) had interpersonal friendship, and 10 (10%) had no formal friendship. It seems that most of the adolescent friendship had formal friendship.

Majority of the habits of the adolescents 59 (59%) belongs to the 'others', 18 (18%) were chewing gum, 11 (11%) were attending Hakka Lounge, 9 (9%) had habit of smoking and 3 (3%) were consuming of alcohol. As far any previous information regarding prevention of HIV/AIDS, majority (n=83, 83%) adolescents reported that they had no previous knowledge and only 17 (17%) had some previous knowledge. Out of 17 adolescents, the majority, (n=8, 47.05%) got previous knowledge through friends, 4 (23.52%) through the media, 3 (17.64%) got it from health professionals and again 2 (11.76%) got from though school education.

Section-B: Assessment of pre interventional knowledge score of adolescents

This study found that majority of adolescents (n=61, 61%) had poor knowledge with 0-10 score, 39 (39%) had average knowledge with 11-20 score and none of them had good knowledge on preventive measures of AIDS.

This study was supported by the study conducted by Ramesh Chanra Juti (2012), findings from a survey of 572 high school students aged 15-19 years in the city of Seremban, Negeri Sembilan state, Malaysia, which showed that knowledge of HIV/AIDS amongst Malaysian students between

the age of 15 and 19 years was moderate. Further, the level of knowledge of HIV/AIDS amongst Malaysian high school students was moderate with an overall total percentage score of 64.7 percent. These students scored highest in question pertaining to HIV transmission and lowest in questions pertaining to HIV testing. Older students demonstrated better level of knowledge of HIV/AIDS compared to younger students. Future awareness programmes targeting these students should include emphasis on availability of HIV testing facilities.

Section-C: Assessment of post interventional knowledge score of adolescents.

The majority of adolescents (n=64, 64%) had gained good knowledge whereas 36 (36%) had gained average knowledge and no one remained at poor knowledge after administration of video-assisted teaching on preventive measures of AIDS.

This study was conducted by Duma O. (2000), regarding the increasing incidence of AIDS among young people, which involves the need for effective HIV/AIDS prevention programmes. The evaluation of such a programmes, using pre-test information and post-test was performed in a high school in Lasi City, on a sample of 169 pupils. They answered a semi-structured questionnaire, concerning false and real HIV ways of transmission, attitudes and pre-conceptions about HIV-infected people. This study showed that the cognitive level increases with age at 17-19 years old and the receptivity is higher at 15-16 years old pupils.

Section-D: Difference between of pre-interventional and post-test knowledge score of adolescents

In the present study, the mean post-test knowledge score (19.5) was apparently higher than the mean pre-test score (9.74). The mean difference between pre-interventional and post-interventional knowledge was 2.0 (9.74 improvement). The statistical significance between pre-and post-test knowledge is evident by 't' value of 21.51 at 0.05 level of significance. Hence, there is significant increase in the knowledge level of adolescents after video-assisted teaching. This indicates that the hypothesis H_1 , stating that the mean post-interventional knowledge is significantly higher than the mean pre-interventional knowledge at 0.05 level of significance is accepted.

This study was supported by the study conducted by Sumana regarding the effectiveness of structured teaching programme on HIV/AIDS. The sample consisted of 60 adult women, 30 each in experimental and control group. The study revealed that the 't' test computed on the difference between the post-test and pre-test

regarding knowledge and attitude (11-24 and 24.5 respectively) in experimental group was statistically significant implying that the structured teaching programme was effective in increasing the knowledge and attitude of the adults.

Section-E: Association of pre-interventional knowledge regarding preventive measures of AIDS among adolescents with their selected demographic variables

In order to find the relationship between the pre-test and selected demographic variables chi-square test was used. There was significant association of pre-interventional knowledge score with five demographic variables: 'age' ($\chi^2=16.8$), 'religion' ($\chi^2=7.88$), 'residential status' ($\chi^2=15.29$), 'habit pattern' ($\chi^2=12.31$) and 'previous information regarding HIV/AIDS' ($\chi^2=8.49$); with calculated chi square value was more than the table value at 0.05 level of significance. This indicates that the hypothesis H_2 is partially accepted i.e. there is significant association between pre-interventional knowledge score on preventive measures of AIDS and selected demographic variables of adolescents at 0.05 level of significance.

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