International Journal of
Recent Innovations in Medicine and Clinical Research
Open Access, Peer Reviewed, Abstracted and Indexed Journal

ISSN: 2582-1075
https://ijrimcr.com/
Volume-2, Issue-3, 2020: 1-7

A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Life Style Changes for Preventing Spread of HIV/AIDS among adolescents: In Polytechnic Students, Bangalore

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Received: January 5, 2020 **Accepted:** May 25, 2020 **Published:** July 1, 2020

Abstract: Introduction: Adolescence is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood. Young age typically represent a transits between childhood and adulthood. This phase of life is highly vulnerable from a risk group in the community. Parents, peers, teachers, religious leaders and others can help adolescent to make healthy choices by providing them with accurate information about their puberty and development. It usually begins between age 11 and 13 years of age with the appearance of secondary characteristics and spans the teenage years, terminating at 18 to 20 years of age with the completion of development of the adult form. **Objectives:** To assess the pre-test knowledge level of adolescents regarding prevention and spread of HIV/AIDS, effectiveness of structured teaching programme regarding prevention and spread of HIV/AIDS among adolescents and associate the pre-test level of knowledge regarding prevention and spread of HIV/AIDS among adolescents with the selected demographic variables. **Material and methods:** A pre-experimental study to assess the effectiveness of structured teaching programme on life style changes for preventing spread of HIV/AIDS among adolescents: in Polytechnic College, Bangalore. Non-probability Convenience sampling was adopted.40 participants were the sample. **Results:** The overall level of knowledge in pretest ranging between 6-20, with the mean score was 13.92 and standard deviation of 3.49 and the mean % was 50.5%.The overall level of knowledge ranging 18-25, with the mean score was 1.77 and standard deviation of 3.49 and the mean % was 50.4%.The findings of analysed data between the pre and post interventional test revealed that the mean and standard deviation of post test scores was 21.6$\pm$1.77 and the mean and standard of pre-test score was 13.92$\pm$ 3.49 and the mean score % of post-test was 50.4% and the pretest score was 50.5%. Structured teaching program was found to be effective in increasing the level of knowledge regarding prevention and spread of HIV/AIDS among adolescents. The study revealed that there was statistical difference between pretest and posttest level of knowledge. The study revealed that structured teaching programme was effective in improving level of knowledge among adolescents studying in Dayananda Sagar College of Polytechnic. The study proved that there was significant association between the pre-test levels of knowledge with their statistical demographic variables. **Conclusion:** The adolescents who do not have enough knowledge about HIV/AIDS could be given a structured teaching programme about the fatal illness to improve their level of knowledge. Hence, the involvement of nursing profession dedicative, collaborative and coordinative approach is essential to improve the level of knowledge of adolescents regarding HIV/AIDS. The study finding supports the hypotheses and hence the hypotheses are retained.

Keywords: Life styles changes, HIV/AIDS, Adolescents.

Introduction

During adolescence, individuals typically experiment with wide range of behaviours and life style patterns. Substance abuse risk is high in adolescence because of natural process of separating from parents, developing a sense of autonomy and independence, establishing a personal identity and acquiring the skills necessary for functioning effectively in an adult world [1]. Adolescents who are impatient to assume adult roles and appear more grown up may smoke, drink or use drugs as a way of laying claim to adult status. The main factor of influencing adolescence are peer groups pressure. Certain factors put adolescents at increased risk of HIV infection. These include the lack of knowledge about HIV/AIDS and how to themselves, difficulty in accessing HIV preventive information and education, having many sexual partners and unsafe sexual activity [2].

Substance abuse is a major factor in the spread of HIV infection. Especially shared equipment for using drug can carry HIV and hepatitis. Substance mainly drug abuse is also linked with unsafe sexual activity [3]. AIDS, the acquired immune deficiency disease, is a fatal illness caused by a retrovirus known as the human immune deficiency virus, which breaks down the body's immune system, leaving the victim vulnerable to a host of life threatening opportunistic infection, neurological disorders or unusual malignancies [4]. The first case of HIV in India was reported in 1986 from Madras. Since then there has been an increase in the number of HIV infections over the years. According to national AIDS control organization of India, the prevalence of AIDS in India in 2015 was 0.26%, which is down from 0.41% in 2002. While the national AIDS control organization estimated that 2.11 million people live with HIV/AIDS in India in 2015, a more recent investigation by the million death study collaborators in the British medical journal (2010) estimated the population to be between 1.4-1.6 million people [5].

A report released by the national AIDS control organization, Karnataka has the third highest number of HIV/AIDS patient in the country. The overall prevalence of HIV/AIDS is sliding but the number of new cases is rising in some states, including Assam, Mizoram and Meghalaya. By the end of 2017, India had an estimated 21.4 lakhs people living with HIV [6]. Adolescence is one of the most fantasy periods of human life that marks the transition from being a dependent child to an independently functioning adult. The health, patterns of behaviour and style of life depends on how these demands are met and by whom. One in every 5 people in the world is an adolescent [7]. Out of 1.2 billion adolescents worldwide about 88% live in developing countries. It is increasingly recognized that good reproductive health really begins in adolescence. Yet serious study of the adolescent as such did not begin until about 25 years ago. Today only when there is an increase in the abortion rate, STDs and other related psychological problem, people have woke up to fill the gaps. The reason for neglect of adolescent sexuality is due to the conservative attitude of the majority Indian mass [8]. Premarital sexual activity, sexually transmitted diseases, especially HIV/AIDS among adolescents has become a global phenomenon. Also unwanted pregnancy and unsafe abortion has become the public health problem [9].

Globally 100 billion adolescents are infected with STDs; 40% of all new HIV infections occur among 15-24 year old. The recent estimates are that 7000 of those young people are infected each day [10]. In developing countries, where society disapproval is strong, women are relevant to acknowledge their sexual behaviour. Fewer than 10% of young unmarried women in India, report sexual activity during adolescence. But in reality, it is estimated that almost 50% of girls enter first union by the age of 18 years [11]. A study conducted reveals that, Adolescents who start sexual activity early need contraception. Use of contraception is very low in India (5%) when compared to Indonesia (36%) and Thailand (46%). In USA more than 50% of unmarried adolescent use some form of contraception. Many youngsters do not have adequate information about effective contraceptives. Those who have the knowledge cannot obtain services and supplies they read. Sexually active adolescents may fear discovery of their behaviour, so they may avoid seeking care rather than risk group [12].

A study conducted reveals, young people in this country are faced with extreme lack of information which makes them vulnerable to risks and disease. This fact is confirmed by a survey analysis of the letters sent to column in daily and magazines by adolescents on their confusion and complex problems. As a result of this, a lot of problems of our youth in the society are becoming social problems as well. Awareness and understanding among adolescents are the best strategies to prevent the transmission of HIV infection. People with HIV in India frequently encounter discrimination while seeking and receiving health care services [13].

Objectives

1. To assess the pre-test knowledge level of adolescents regarding prevention and spread of HIV/AIDS.
2. To assess the effectiveness of structured teaching programme regarding prevention and spread of HIV/AIDS among adolescents.
3. To associate the pre-test level of knowledge regarding prevention and spread of HIV/AIDS among adolescents with the selected demographic variables.

Methodology

A Pre-Experimental, pretest–posttest design was adopted. The research design for this study is Pre-Experimental method, one group pre-test–post-test design. The study was conducted in Dayanada Sagar College of Polytechnic in Bangalore. 40 participants were included in the study. Non-probability Convenience sampling was adopted.

Results

Table 1. Description of the adolescents based on demographic variables (N=40)

S.No.	Demographic Variables	Categories	Frequency	%
1	Age	15-16 yrs	3	7.5
		16-17 yrs	9	22.5
		17-18 yrs	13	32.5
		18-19 yrs	15	37.5
2	Sex	Male	28	70
		Female	12	30
3	Education	Higher Secondary school	0	0
		Primary education	0	0
		Diploma course	40	100
		Other training	0	0
4	Family Occupation • Father	Government	5	12.5
		Private	10	25
		Self-Business	15	37.5
		Unemployed	10	25
	• Mother	Government	3	7.5
		Private	6	15
		Self-Business	3	7.5
		Unemployed	28	70
5	Family Income per month	Less than 10,000	3	7.5
		10,001-15,000	5	12.5
		15,001-20,000	15	37.5
		Above 20,000	17	42.5
6	Availability of Health services	PHC	2	5
		Government	6	15
		Private	15	37.5
		All	17	42.5

7	Sources of information	School	6	15
		Internet	10	25
		Television	18	45
		Newspaper	6	15

It represents 70% of the students were male and 30% of the students were female. With reference to age, 7.5% of the students were under the age group of 15-16 years, 22.5% of the students were under the age of 16-17 years, 32.5% of the students were under the age group of 17-18 years and 37.5% of students were under the age group of 18-19 years. With regard to occupation, in father; 12.5% had an occupation under government sector, 25% had an occupation under private sector, 37.5% had self-business and 25% were unemployed. In mother; 7.5% had an occupation under government sector, 15% had an occupation under private sector, 7.5% had self-business and 70% were unemployed. With reference to income which is per month, 12.5% had an income below 10,000/-, 15% had an income of Rs. 10,000 - 15,001/-, 37.5% had an income of Rs. 15,001-20,000/-, and 42.5% had an income of above Rs. 20,000/-.With reference to availability of health services, 5% utilizes health services from primary health centre, 15% utilizes health services from government hospital, 37.5% utilizes health services from private hospital and 42.5% utilizes health services from all sectors. With regard to source of information, 15% got the information from school, 25% got the information from internet, 5% got the information through television and 15% got the information through newspaper. So, with regard to highest frequency in sex, 70% were male, in age group, 37.5% were under the category of 18-19yers, with regard to occupation, father; 37.5% were under the category of self-business i.e. 15 samples and among mothers; 70% were unemployed i.e. 28 samples. 42.5% had an income above Rs. 20,000/-. Majority of the subjects i.e. 42.5% (17 samples) utilizes health services from all PHC, government and private hospitals. Also majority of the subjects i.e. 25% (10 samples) got the information from internet.

Table 2. Distribution of adolescents according to level of knowledge (N=40)

S.No	Dimensions of level of knowledge	Level of knowledge	Pre-test		Post-test	
			F	%	F	%
1	General Knowledge	Inadequate	15	37.5	0	0
		Moderate	21	52.5	7	17.5
		Adequate	4	10	33	82.5
2	Knowledge regarding Prevention of transmission of HIV/AIDS	Inadequate	25	62.5	6	15
		Moderate	13	32.5	22	55
		Adequate	2	5	12	30
3	Over all	Inadequate	11	27	0	0
		Moderate	27	68	4	10
		Adequate	2	5	36	90

Table 3. Range, Mean, S.D and Mean score % of Pre-test level of Knowledge score among adolescents/clients (N=40).

S.No.	Level of Knowledge	Max. Score	Range	Mean	SD	Mean %
1	General Knowledge	18	5-6	10.1	2.63	72.5
2	Knowledge regarding prevention of transmission of HIV/AIDS	8	0-7	3.98	1.44	28.5
3	Over all	26	6-20	13.92	3.49	50.5

Table 3 represents the range, mean, standard deviation and mean score% of pretest for general knowledge, knowledge regarding prevention of transmission of HIV/AIDS and overall. General knowledge was between the range of 5-6, mean score was 10.1 with standard deviation of 2.63 and

the mean % was 72.5%. The knowledge regarding prevention of transmission of HIV/AIDS was between the range of 0-7, mean score was 3.98 with standard deviation of 1.44 and the mean % was 28.5%. The overall ranges of 6-20, mean score was 13.92 with standard deviation of 3.49 and the mean % was 50.5%.

Table 4. Range, Mean, S.D and Mean score % of Post-test level of Knowledge score among adolescents/ clients (N=40).

S.No.	Level of Knowledge	Max. Score	Range	Mean	SD	Mean %
1	General Knowledge	18	10-18	15.62	1.71	72.3
2	Knowledge regarding prevention of transmission of HIV/AIDS	8	4-8	6.17	1.21	28.5
3	Over all	26	18-25	21.6	1.77	50.4

Table 4 represents the range, mean, standard deviation and mean score% of posttest for general knowledge, knowledge regarding prevention of transmission of HIV/AIDS and overall. General knowledge was between the range of 10-18, mean score was 15.62 with standard deviation of 1.71 and the mean % was 72.3%. The knowledge regarding prevention of transmission of HIV/AIDS was between the range of 4-8, mean score was 6.17 with standard deviation of 1.21 and the mean % was 28.5%. The overall ranges of 18-25, mean score was 1.77 with standard deviation of 3.49 and the mean % was 50.4%.

Table 5. Comparison of Pretest and Post-test on the knowledge level of adolescents (N=40)

S.No.	Level of Knowledge	Max. Score	Pretest			Posttest		
			Mean	SD	Mean %	Mean	SD	Mean %
1	General Knowledge	18	10.1	2.63	72.5	15.62	1.71	72.3
2	Knowledge regarding prevention of transmission of HIV/AIDS	8	3.98	1.44	28.5	6.17	1.21	28.5
3	Over all	26	13.92	3.49	50.5	21.6	1.77	50.4

Table 5 between the pre and post interventional test revealed that the main and standard deviation of post test scores (21.6$\pm$1.77) was greater than the mean and standard of pretest score (13.92$\pm$ 3.49) and the mean score % of posttest (50.4) was lower than the pretest score (50.5%), which indicated structure teaching program was effective in increasing the level of knowledge regarding prevention of HIV/AIDS among adolescents.

Table 6. Outcome of paired t-test analysis for pre and post-test of level of knowledge among adolescents (N=40)

S.No.	Level of Knowledge	Max. Score	Mean difference	Mean difference %	Paired t-test	P-value
1	General Knowledge	18	5.52	71.87	0.40^{s}	P<0.05
2	Knowledge regarding prevention of transmission of HIV/AIDS	8	2.19	28.51	6.57^{s}	P<0.05
3	Over all	26	7.68	34.67	14.67^{s}	P<0.05
Note: S- denotes significant at 5% level (p<0.05).						

Table 6 between the pre and post interventional score revealed that the mean difference % was 34.67 %, the calculated paired't' value was 14.67 which was significant at the level of p value < 0.05.Hence the hypothesis 1 was expected structured teaching program was found to be effective in increasing the level of knowledge regarding prevention of HIV/AIDS among adolescents.

Table 7. Associate the pre-test level of knowledge regarding prevention and spread of HIV/AIDS among adolescents with the selected demographic variables.

Demographic Variables	Categories	Sample		Level of Knowledge						Chi-Square test	P-value
				Inadequate		Moderate		Adequate			
		F	%	F	%	F	%	F	%		
Sex	Male	28	70	10	35.7	16	57.1	2	7.14	4.037	P<0.05
	Female	12	30	3	25	9	75	0	0		
Age	15-16yrs	3	7.5	1	33.3	2	66.7	0	0	3.679	P<0.05
	16-17yrs	9	22.5	3	33.3	6	66.7	0	0		
	17-18yrs	13	32.5	4	30.7	9	69.3	0	0		
	18-19yrs	15	37.5	5	33.3	8	53.3	2	13.3		
Family Occupation											
Father	Government	5	12.5	1	20	4	80	0	0	10.728	P<0.05
	Private	10	25	3	30	7	70	0	0		
	Self-Business	15	37.5	8	53.3	5	33.3	2	13.3		
	Unemployed	10	25	1	10	9	90	0	0		
Mother	Government	3	7.5	1	33.3	2	66.7	0	0	8.6903	P<0.05
	Private	6	15	2	33.3	3	50	1	16.67		
	Self-Business	3	7.5	1	33.3	1	33.3	1	33.3		
	Unemployed	28	70	9	32.14	19	67.8	0	0		
Family Income	<10,000	3	7.5	0	0	3	100	0	0	6.299	P<0.05
	10,001-15,000	5	12.5	3	60	2	40	0	0		
	15,001-20,000	15	37.5	4	26.67	11	73.3	0	0		
	>20,000	17	42.5	6	35.2	9	52.9	2	11.7		
Availability of health services	PHC	2	5	1	50	1	50	0	0	4.131	P<0.05
	Government	6	15	2	33.3	4	66.67	0	0		
	Private	15	37.5	4	26.67	11	73.3	0	0		
	All	17	42.5	6	35.29	9	52.9	2	33.3		
Sources of information	School	6	15	2	33.3	4	66.67	0	0	10.863	P<0.05
	Internet	10	25	3	30	5	50	2	20		
	Television	18	5	11	61.1	7	38.89	0	0		
	Newspaper	6	15	1	16.67	5	83.3	0	0		

Table revealed that the calculated chi-square value for demographic variables were less than the table value.

Conclusion

The study was designed to evaluate the effectiveness of the structured teaching programme on prevention and spread of HIV/AIDS among the adolescents from Dayananda Sagar College of Polytechnic, Bangalore. The data was collected from 40 samples before and after providing structured teaching programme. Non- probability convenience sampling was used to select the sample.

Conflict of interest

The authors declare that there are no conflicts of interest.

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Citation: Neupane S, Devi LD, Lakshmi Devi N. A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Life Style Changes for Preventing Spread of HIV/AIDS among adolescents: In Polytechnic Students, Bangalore. Int J Rec Innov Med Clin Res. 2020;2(3):1-7.