Original article

Effect of Information, Education and Communication (IEC) on Knowledge and Attitude regarding Premarital HIV and Haemoglobin Genotype Testing among Adolescents

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Abstract

Background: Premarital screening is a test done for younger adults and couples considering marriage for prevention of genetic, infectious and blood transmitted diseases. Adolescent and college young adults must be educated about potentially life-threatening infectious and genetic disorders for the promotion of their health, well-being as well their offspring too. For providing accurate and unbiased education and information, the IEC is considered to be an effective intervention strategy. **Materials and Methods:** The study was done to assess the effect of IEC on knowledge and attitude regarding premarital HIV and Haemoglobin genotype testing among adolescents in a selected Pre-University Colleges, Bengaluru. An evaluative approach with quasi experimental pre-test and post-test control group design was used. A study sample comprised of 60 adolescents in experimental group and 60 adolescents in control group. The sample was selected using lottery method of the simple random sampling technique. The Structured knowledge questionnaire and Three point Likert scale was used to assess the knowledge and attitude level of adolescents respectively. **Results:** Study results revealed that the experimental group which received IEC showed significant difference in the improvement of knowledge ($p < 0.001$) and the attitude score ($p < 0.001$). **Conclusion:** Based on the study findings, it can be concluded that IEC is a best strategy to spread awareness through proper use of materials to young people to achieve a desired positive outcomes in terms of improving knowledge and positive attitude on prevention of life threatening infectious diseases and genetic disorders.

Keywords: *Information, Education, Communication, Knowledge and Attitude,*

Introduction

Adolescent is one of the most important phases in human development characterised by physical, psychological, sexual and social maturation[1]. When adolescent become sexually matured they may have high risk behaviour[2] like having early sexual initiation before marriage, unprotected sexual intercourse, sex with multiple partners, and unprotected sex with partners result in sexually transmitted infections, genetic disorders which make them more susceptible to get STD, unwanted pregnancy, and unsafe abortion and contributes to different adverse effects[3]. In worldwide hemoglobinopathies such as the sickle cell disorders and the thalassemia syndromes are the most common genetic disorders, typically inherited as autosomal recessive disorders from healthy-carrier parents to children through genes. Among the blood-borne viruses HIV, HBV and HCV are important and have

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several implications[4,5]. Information education and communication (IEC) is the process of learning that empowers people to make decision, modify behaviours and change social conditions in relation with health. An IEC approach are used to reach target groups very easily and provides self-belief concerning premarital testing of HIV and Haemoglobin genotype, so as to protect and sustain their own health and that of their partners including the children[6,7]. Hence, IEC intervention is deemed to be the best method to provide information to the adolescents regarding premarital screening and get to know about health challenges and prevention of any risk of transmitting disease to spouse and children because they are specially targeted audience for the same as they are the most vulnerable group towards getting sexually transmitted infections. The World Health Organization (WHO) and the World Bank recognises the important role of IEC in the achievement of health, nutrition, and population goals and recommended its inclusion in health programmes for sustainable and better health outcomes[8,9,10]. The study was done to evaluate the impact of IEC on knowledge and attitude regarding premarital HIV and Haemoglobin genotype testing among adolescents. It was hypothesized that there was a significant improvement of knowledge level and changes in attitude among adolescents received IEC intervention.

Material and Methods: The study adopted a quantitative research approach with a quasi-experimental pre-test and post-test control group design. The study was carried out at selected Pre-University Colleges, Bengaluru. Before conducting the study, an administrative permission was obtained from selected Pre-University Colleges. Both male and female adolescent, aged 15-21 years and who are available at the time of data collection were the focus population for this study. They were 120 adolescent that is 60 in experimental group and 60 in control group were selected from two different schools to eliminate possible contamination of the study participants. A lottery method of simple random sampling technique was used for sample selection. Ethical clearance was approved by the ethical committee of the institution. Data was collected after the details of the study were explained to them. Informed consent was obtained from each participant. Assurance was given to participants that anonymity of each individual would be maintained and were informed of their right to withdraw anytime during the course of the study. The tool used for data collection were socio demographic proforma, structured knowledge questionnaire to assess the knowledge level and Three point Likert scale to assess the attitude level of participants. The reliability, content validity was established for all tools. After the selection of participants, the pre-test assessment of knowledge and attitude were done. The experimental group received information, education and communication on premarital HIV and Haemoglobin genotype testing by using various methods and materials include a lecture, PPT slides, leaflet, poster, educational video and booklet. The post-test assessment of knowledge and attitude was carried out after seven days of intervention. At the end of the research study, the control group was also provided with the same content of all the information which is provided to the experimental group. The data analysis has been done using SPSS 19 version. Data was analyzed using descriptive and inferential statistics.

Results

Subject demographic characteristics: The frequency and percentage distribution of baseline characteristics are described in Table-1.

Data presented in Figure- 1 show that in experimental group 46 out of 60 (77%) of them had inadequate pre-test knowledge score. After the IEC intervention, majority of them that is 27 out of 60 (45%) of them had adequate post-test knowledge score. Whereas in the control group majority of them that is 43 (72%) had inadequate post-test knowledge score.

The data presented in Figure- 2 show that in the experimental group 31 out of 60 (52%) had positive pre-test attitude score before IEC intervention given. After the IEC intervention in the experimental group, majority of them 50 out of 60 (83%) had positive post-test attitude score. Whereas, in the control group, majority of them 51 out of 60 (85%) and 36 out of (60%) had neutral attitude score in pre-test and post-test respectively.

Effectiveness of IEC on knowledge: The experimental group mean post-test knowledge score (M=12.9, SD=2.60) was higher than the control group mean post-test knowledge score (M=7.63, SD=2.54). There was a significant gain in knowledge level ($t(118) = 11.21$, $p<0.001$) among the experimental group (Table 2).

Effectiveness of IEC on Attitude: The experimental group mean post-test attitude score (M=36.38, SD=4.10) was higher than the control group mean post-test attitude score (M=30.60, SD=4.18). There was a significant change in attitude level (t (118) =7.63, p<0.001) among the experimental group (Table3).

The chi-square test show no significant association was found between knowledge score and selected socio-demographic variables, but there was a significant association found between attitude score and selected socio-demographic variables like age and life style practice, at 0.05 level of significance.

Discussion

College and University students as a population are particularly vulnerable to getting infectious diseases. Young adults are expected to gain sexual experience by starting sexual relationships at an earlier age or having multiple sexual partners[11]. Inadequate knowledge of HIV and AIDS regarding prevention measures can produce the false perception of the disease among youth population. The youth are much more prone to HIV infection as well as other sexually transmitted infections as a result of a lack of correct health information[12]. Now a day, the youths are indulging in unhealthy practices at relatively early age. Easy accessibility to internet facilities is one of the reasons. According to the World Health Organization (WHO), approximately 240 million people are carriers of genetic disorders and at least 200,000 affected individuals are born annually which is approximately equally divided between sickle cell anaemia and thalassemia[13]. Many studies have been conducted to evaluate outcome of educational intervention on knowledge and practice regarding HIV and its transmission. But very fewer studies have been done to determine the effectiveness of IEC on pre-marital HIV and genotype testing among adolescents. The World Health Organization (WHO) and the World Bank recognises the important role of IEC in the achievement of health, nutrition, and population for better health outcomes[14]. Pre-marital HIV testing contributes to the prevention of HIV infection by diminishing heterosexual transmission between partners and indirectly also protects any potential child from contracting the virus. Worldwide, youth are often viewed as immature individuals who are not ready to make the right decisions regarding their sexual lives, and parents are expected to monitor and inform their decision about sexual and reproductive health. Genetics educational programs that target youths may improve knowledge of genetics and create a public perception that further supports genetic testing[15]. Providing sexual communication and education on sexual and reproductive health is important to prevent sexual risk among adolescent[16]. IEC is a method that empower individual to make decision and promotes positive behavioural changes. It helps to improve the understanding and attitudes towards prevention of genetic blood disorders. The findings of the present study reveal that the adolescent's knowledge about HIV and genetic disorder and its treatment was relatively low and the poorest attitudes were observed towards before intervention. Adolescent's limited knowledge about HIV could be attributed to their lack of access to sexual health information. After IEC intervention there was a significantly gain in knowledge and attitude on premarital HIV and Haemoglobin genotype testing. There was no treatment and apparently no way to stop the spread of HIV infection, except by engaging in dubious efforts to change people's behaviour. In a similar study, it was observed that IEC has significantly increased the knowledge and positive attitude of the study population[17].

Conclusion

Adolescents period is an important part of the development process. Due to engagement in high risk behaviour there is an increasing rate of prevalence of spread of infectious and genetic disease. It may cause short term and long term health effects. IEC has role to increase awareness, knowledge and attitude about Premarital HIV and Haemoglobin Genotype Testing. The similar intervention can be conducted in the curriculum of secondary education is recommended.

Table-1: Frequency and percentage distribution of adolescents according to their socio demographic variables N=120

S.No	Socio demographic variables	Experimental group (n=60)		Control group (n=60)	
		f	%	f	%
1	Age in years 16-17 18-19	 43 17	 72 28	 40 20	 67 33
2	Gender Male Female	 31 29	 52 48	 34 26	 57 43
3	Class PUC I PUC II	 23 37	 38 62	 32 28	 53 47
4	Religion Hindu Christian Muslim	 49 6 5	 82 10 8	 55 2 3	 92 3 5
5	Types of parent marriage Marriage between relatives Marriage between non-relatives	 7 53	 12 88	 11 49	 18 82
6	History of HIV in the family Yes No	 1 59	 2 98	 - 100	 - 100
7	History of SCD/ thalassemia in the family Yes No	 - 60	 - 100	 - 60	 - 100
8	Awareness about premarital HIV and Haemoglobin genotype testing Yes No	 - 60	 - 100	 - 60	 - 100

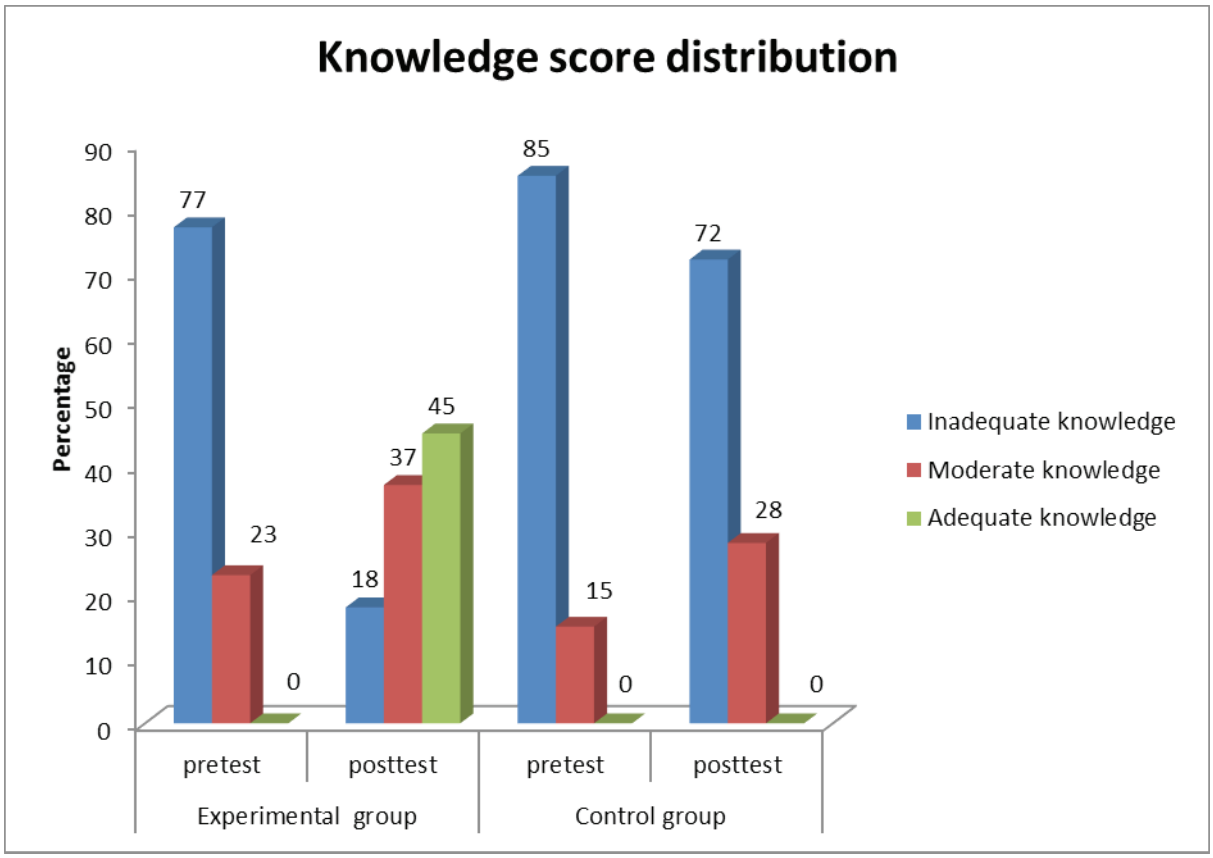

Fig 1: Frequency and percentage distribution of adolescents according to pre-test and post-test knowledge score N=120

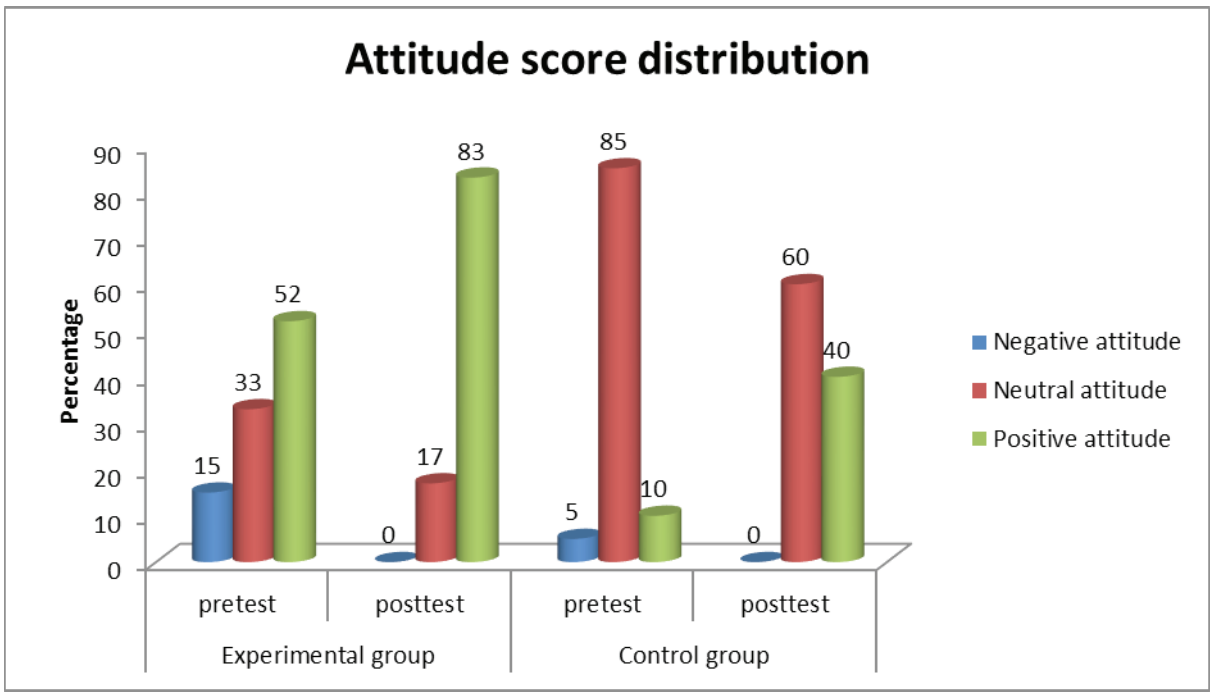

Fig 2: Frequency and percentage distribution of adolescents according to pre-test and post-test attitude score N=120

Table- 2: Overall knowledge score of adolescents

Group	n	Mean	SD	MD	t-value	p value
Experimental group	60	12.900	2.602	5.267	11.210	(p<0.001)
Control group	60	7.633	2.544			

* significant at 0.05 level of significance; df=118

Table- 3: Overall attitude score of adolescents

Group	n	Mean	SD	MD	t-value	p value
Experimental group	60	36.383	4.109	5.783	7.636	(p < 0.001)
Control group	60	30.600	4.187			

*significant at 0.05 level of significance; df=118

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Conflict of Interest: Nil

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