

The effect of education with film display and educational booklets on knowledge and attitude of girl students towards AIDS

Fathiyeh Kermansaravi¹, Mahmoud Emani², Mahin Naderifar³,
Shahla Shafiee⁴

Journal of Research & Health
Social Development & Health Promotion
Research Center
Vol. 3, No. 1, 2013
Pages: 278-285
Original Article

1- MSc, in Social Health Nursing, Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran.

2- **Correspondence to:** Associate Professor, Pediatric Dept, School of Medicine, Zahedan University of Medical Sciences and Health Services, Zahedan, Iran
Tel/Fax: +98 541 2411415

E-mail: mimani2012@yahoo.com

3- MSc, in Pediatric Nursing, Health Promotion Research Center, Zahedan University of Medical Sciences and Health Services

4- PhD in Nutrition, Assistant Professor, Nutrition Dept, School of Medicine, Zahedan University of Medical Sciences and Health Services

Received: 30 Nov 2012

Accepted: 28 Oct 2012

How to cite this article: Kermansaravi F, Emani M, Naderifar M, Shafiee Sh

The effect of education with film display and educational booklets on knowledge and attitude of girl students towards AIDS.

J Research Health 2013; 3(1): 278-285

Abstract

AIDS is a medical health phenomenon whose social, cultural and economic dimensions are very widespread. Little information about this disease is emerging because of its recent development. Regarding the youth and adolescent, these are the groups most at risk of infection to AIDS, and the only means of controlling the disease is education and increasing knowledge. So, this study is aimed at comparing the effect of two methods of film display and educational booklets on the knowledge and attitude of girl students towards AIDS. This study was a semi-experimental study, 600 girl students from among girl students of Zahedan city were chosen using cluster sampling in 2009. They were divided into 3 groups (showing movies, educational booklet and control). The data were collected by a structured questionnaire in two stages, before and after the intervention. The obtained data were analyzed by SPSS software V.15 at significant level of 0.05. In order to compare the level of knowledge before and after the intervention, Chi-square and Exact Fisher tests were employed. There was a significant difference in level of knowledge between the groups before and after intervention ($P=0.00$), attitude of showing movies group was more positive than that of the other two groups ($P=0.001$). In conclusion, for improving the knowledge about AIDS, showing movie method is more effective than the booklet method in girl students.

Keywords: AIDS, Attitude, Educational methods, Knowledge, Student

Introduction

AIDS is a disease that affects multiple body systems, and in addition to logarithmic increase, heavy financial costs are also incurred due to its high treatment expenses and mortality rates [1]. Of all age groups, young adults and adolescents have the highest infection rates, and a quarter of all immunodeficiency infection cases in the U. S. occurs among young people under 22 years of

age. Center for Disease Control has introduced it as the second leading cause of death among 15-24 years age group [2]. According to the Health Ministry statistics, women comprise 70% of all cases of HIV infection, and half of those infected, are younger than 25 years old. Girls are more at risk of infection than boys and at younger ages, as girls aged 15-24 years comprise 7.5%

of the infected [3]. In the past two decades, this disease has become a serious problem for the world. Considering the World Health Organization's forecasts about its emerging epidemics in Asia, and its risk in developing countries due to health, economic, and social consequences, are the warning alarms that require a serious fight [4]. Programs for prevention of infection with HIV must be in accordance with strategies that abort sexual, transfusion, or prenatal transmission of the virus. Therefore, understanding epidemiology of the disease and human behavior is important [5]. The principles of HIV prevention strategy involve education, counseling, and behavior modification. Majority of scientists believe that the school is the most appropriate place to achieve the objectives of health education. Experts believe that health education in schools is one of the most fundamental pillars of purposeful school health activities [6]. The first step is identifying knowledge of the study population about the disease. Several studies carried out in Iran indicate varying statistics of level of knowledge of students and youngsters about AIDS transmission and prevention methods. In a cross-sectional study conducted on high school students in Yazd in 2002, the level of knowledge and positive attitudes of students about AIDS were found 35.2% and 36.3%, respectively [7]. Meanwhile, in Sharifzadeh et al. study in 2008, knowledge level was 38% and positive attitude 12.8% [8]. The results of a study by Babaei et al. in 2008 showed that 80.2% of boy students and 75.7% of girls believed they did not have adequate information about AIDS [9]. A study in Nigeria showed that students had insufficient knowledge of the disease transmission and prevention methods, and this affected their attitudes and actions [10]. According to the reported statistics in this country, transmission was 69.8% through needle share in injection drug users, 8.9% through sexual relationship, 1.2% through blood transfusion and blood products, 0.6% through mother to child, and 19.5% through unknown means

[11]. Considering these statistics, the most common age group with AIDS is 25-34 year olds, and the most common mode of transmission is through injection drug use [12]. Since there is no drug for treatment and no effective vaccine for prevention [13], the best way to combat AIDS is prevention, which is achievable through educating people. As one of the reasons for spread of the virus is ignorance about the infection and characteristics of the disease, people's knowledge of prevention and transmission principles could lower infection rates or prevent infection. Studies indicate that elevating level of knowledge in people, especially in adolescents, lowered infection from 80% to 50% [14, 15]. The role of education in acquiring knowledge, skills, and abilities in health decision making and behavior modification is clear to everyone [16]. Educational media play an important role in the process of education. The impact of media on the mind is deeper and more lasting than that of written words or speeches [17]. Different educational and knowledge raising methods for students and youngsters have been studied including peer tutoring, the physician and pamphlets [18], speeches [9, 19, and 20], use of slide presentations and picture messaging [21, 22], educational booklets [13], discussion groups and face-to-face teaching [23], education through pamphlets and video films [9]. There have been few studies on active educational methods in Iran. In other countries, the impact of different educational methods in prevention of AIDS has been studied [24, 25, and 26]. Studies show that participation of learners in learning and active educational methods was an effective strategy in raising their knowledge and changing attitudes [19, 27, 28, and 29]. Considering lack of knowledge among adolescents [30], high risk behaviors may be prevented with a relatively low expenditure on prevention and knowledge raising before AIDS becomes a health problem across the country [4]. Therefore, this study was conducted to compare the

effects of two educational methods of film and educational booklet on knowledge and attitudes of third year high school student girls in Zahedan.

Method

This quasi-experimental study was conducted to compare the effects of two educational methods about AIDS using films and educational booklet on knowledge and attitudes of the third year high school girls in 2009. Students were selected through a multistage sampling from zones 1 and 2 in Zahedan. With probability of increased knowledge in the booklet group ($P1=0.36$), and in film group ($P2=0.64$), error of 5% and test power of 80%, sample size for each group, given the conditions and means, was found 200 people. Multistage or stratified random sampling was used to match groups (based on cultural, economic, and social status of the population covered in zones 1 and 2). Out of 19 girls' high schools in Zahedan, 12 were initially randomly chosen (4 schools as control group, and 8 as case). Next, 50 students out of each school were selected through convenient sampling. In total, 600 students were randomly divided into three groups of 200 each (education through film group, education through booklet group, and control group). Before this study, participants had not officially received any education on AIDS. Any student declining to participate was substituted with another. Data collection means in this study consisted of two researcher-made questionnaires and an information form on sources of information. To assess students' knowledge, 13 questions were asked on AIDS, prevention methods, treatment of at risk groups, symptoms of the disease, and means of transmission etc. Each correct answer scored 2 marks and wrong answers scored 0 each, 26 marks in total. Scores 50-75% had moderate knowledge, and over 75 percent had good knowledge, those scoring less than 50% had weak knowledge. Therefore, less than 13 marks meant weak

knowledge, 13-18 marks meant moderate, and 19-26 meant good knowledge. In terms of attitude, 15 items were arranged in 3-point Likert style (agree=3, no opinion=2, and disagree=1). Scores less than 30 were considered negative attitudes and scores over 30 were positive. Content validity was used to validate the questionnaires. Firstly, questionnaires were prepared according to scientific criteria found in past literature, and were reviewed and approved by a number of science faculty members. Reliability of the questionnaires was assessed by a re-test method, with a 10-day interval on 10 high school students in Zahedan (not participating in the study), and correlation coefficient of 87% was found for knowledge questions and 85% for attitude questions. Internal consistency of the questions was determined through a study on 20 students, and Cronbach's alpha of 85% was found for knowledge questions and 82% for attitude questions. Also, before commencement, educational intervention workshops on AIDS and its prevention strategies for health associates of high schools under study were designed and implemented. Teaching aids included a 30-minute video and educational booklet for students, and a training manual for health associates, which was prepared under supervision of the county's AIDS expert and approved by a number of infectious disease specialists. A pre-test was taken from all 3 groups prior to educational intervention, and posttest was carried out on 3 groups, one month after intervention in film and booklet groups. For the film group, a few questions in connection with AIDS were posed by the health associate prior to students' watching the film and a Q&A session between students and health associate followed screening of the film. For the booklet group, educational booklets were issued and students were given two weeks to thoroughly study the contents. Then educational meetings were held with presence of the health associate to answer any queries raised by students.

Comparison between film display and educational booklets on knowledge and attitude about AIDS

For data analysis, SPSS-15 software was used, with descriptive tests for every single question, chi-square test to compare knowledge in three groups before and after intervention, and Fisher's exact test to compare attitudes in the two control and booklet groups. Also, participants' consents were obtained prior to implementation of interventions.

Results

Results revealed that the most common sources of AIDS information of students were radio and TV (77.6%), newspapers (36.1%), educational manuals (27%), health workers (2.1%), and counseling centers (2.5%), respectively. Participants' knowledge about AIDS before intervention was weak in 17%, moderate in 60.5%, and good in only 22.5%. The frequency distribution of students' correct answers to knowledge questions before and after intervention is presented in Table 1.

Table 1- Frequency distribution of the third year high school girl students' correct answers to AIDS questions

Groups Frequency of knowledge questions	Before education			After education		
	Film	Booklet	Control	Film	Booklet	Control
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Cause of disease	171(85.5)	136(68.7)	137(96.9)	186(93)	180(90)	164(82.4)
Contagious	153(77.7)	134(67.7)	154(76.6)	192(96)	188(94)	180(90)
Disease definition	46(23.8)	61(33)	46(24.6)	136(73)	135(67.5)	165(82.5)
Disease treatment	131(65.8)	144(72.4)	138(69.3)	174(87)	178(89)	139(69.8)
Groups at risk	150(75)	182(91)	187(93.5)	189(94.5)	197(98.5)	198(99)
Main symptoms	127(64.8)	157(79.3)	155(82.54)	175(88)	176(88)	185(92.5)
Most common transmission means	117(58.5)	85(42.5)	92(46)	180(90)	147(73.9)	125(63.1)

In assessment of participants' attitudes toward AIDS before intervention, it was revealed that 90.6% had negative attitudes and 9.4% had positive attitudes.

In comparing knowledge and attitudes in three groups before intervention, it was shown that there was no significant difference between the three groups. In comparing knowledge of the three groups after

intervention, control group had the lowest level knowledge, and film group had the highest level (P=0.000). Statistical test showed a significant difference in the three groups' knowledge before and after intervention, and knowledge improved in control group as well as in intervention groups (table 2).

Table 2- Knowledge of the three student groups about AIDS before and after intervention

	Film		Control		Booklet	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Weak knowledge (less than 13)	37(18.5)	0(0)	33(16.5)	0(0)	32(16)	0(0)
Moderate knowledge (13-18)	130(65)	20(10)	115(57.5)	51(25.5)	118(59)	38(19)
Good knowledge (19-26)	33(16.5)	180(90)	52(26)	149(74.5)	50(25)	162(81)
Total	200(100)	200(100)	200(100)	200(100)	200(100)	200(100)
P-Value	000*.		000*.		000*.	

Comparison of knowledge in control group and film group, and control group with booklet group revealed a significant difference ($P=0.000$). The level of knowledge improved more in film and booklet groups compared to control group. The difference between the film and booklet groups before intervention was not significant, and became significant only after intervention, with film group having higher knowledge.

In assessment of the effects of film and booklet on attitude, no significant difference was found between three groups before intervention, but a significant difference was found after intervention in the film group. Generally, attitudes of participants after intervention tended more toward positive, and this difference in film group was significant (Table 3).

Table 3- Attitudes of the three student groups toward AIDS before and after intervention

	Film		Control		Booklet	
	Pre-test N (%)	Post-test N (%)	Pre-test N (%)	Post-test N (%)	Pre-test N (%)	Post-test N (%)
Negative attitude	199(99.5)	158(80.2)	200(100)	185(94.9)	198(99)	189(96.9)
Positive attitude	1(0.5)	39(19.8)	0(0)	10(5.1)	2(1)	6(3.1)
Total	200(100)	197(100)	200(100)	195(100)	200(100)	195(100)
P-Value	0.001*		0.06		0.8	

No significant difference was observed in attitudes between control and booklet groups after intervention. But, the difference between control and film groups, and also between booklet and film groups was significant, and film group after intervention had the most positive attitude compared to the other groups.

Discussion

The efficacy of two educational strategies, film and booklet, was investigated in this study. The film method had a more positive effect on knowledge and attitudes of the students. The same results were also found in a study by Babaei *et al.* that compared the effects of two methods of educational speech and film on students in the city of Babol, which showed film was more effective in raising knowledge and attitudes of students about AIDS [9]. Motahari *et al.* used two methods of educational speech (with film) and educational posters, and found that both methods were effective in raising knowledge, but speech with film was more effective in raising knowledge and attitudes of students [3]. A study by Saffari *et al.* showed both

educational speech and film were effective in raising knowledge and attitudes of students, but speech was more effective in this study [29].

In comparing the present study with the few available studies from around the world, slight differences were found. For example; in a study by Mc Alpine comparing two methods of speech and film during training of nurses in the U. S. , a very small difference was observed between two methods [32]. In another similar study in Russia for AIDS training purposes using speech and film methods, the differences between two methods were less severe than that found in the present study, and speech was slightly more effective [27]. In a study by Delamater, face-to-face method was more effective than educational video in raising knowledge of students in AIDS prevention [28]. In this study, the difference between three groups in terms of knowledge and attitude before intervention was insignificant, but after intervention there was a significant difference between them. Although in the second stage, the difference was significant, this increase was more seen in film and booklet groups

than in control. In this respect, Kanis Simin et al. found the same results in their study on the effect of group discussion in educational AIDS program, and attributed it to lack of time and knowledge of samples in the group discussion method [32].

In studies conducted in Iran, the difference in level of knowledge of the control group before and after intervention was not as expected [13, 19, and 20]. However, in this study, attempts were made for different groups not to be affected by each other's knowledge (different groups from different schools), nevertheless, control group showed a significant difference in results before and after intervention. This could have been due to accidental right answers, as well as spread of news and information through the media. Particularly, as 77. 6% of students reported radio and TV their best source of acquiring information, thus, the media could not have been ineffective. Another finding in this study was the tendency toward more positive attitude in the three groups in the second stage of the study, with a significant difference only in the film group. This was in line with results of studies conducted in Iran and abroad [9, 20, and 31]. In a study by Karimi et al. , no change was found in the attitude of the intervention group that was educated through pamphlets on AIDS [19]. In this study, even with a significant difference in knowledge before and after the educational film, slight changes in attitudes of students of this group were observed. The more positive attitude in the film group could have been due to their more raised knowledge compared to the booklet group. Many studies have reported a direct relationship between level of knowledge and attitude toward AIDS [34]. It seems that education through film reaches the audience and directly and indirectly involves them in the process of learning, and makes achievement of educational goals possible. The slight change in the attitude of the control group could have been due to reasons like tendency to social conformity (answering positive questions), and receiving information

through friends and the media (uncontrollable factors in the study). Even with increased knowledge, no significant difference in attitude of the booklet group was observed after intervention. The reason for this may have been due to the highly negative attitudes of majority of group members (over 94%) before the intervention that still remained so even after intervention and only slightly changed, and also the need for longer time for changing attitudes. Given 62. 8% of students believed AIDS education would cause a fright in the community, and 72. 7% were of the opinion that compliance with hygiene principles would not prevent the disease indicates the negative attitudes of students in this respect. Majority of students (81. 2%) agreed that there should be a compulsory screening test before marriage, and 68. 5% of students agreed that travelers into the country should be tested for AIDS, and 72. 6% agreed that the whole community should be tested. On reflection, this is indicative of the community's fear due to lack of sufficient knowledge and correct understanding of the disease and its means of transmission. Many (91. 6%) students had a desire to gain full information about AIDS, and 74. 6% agreed that raised knowledge would help prevention of the disease. These two points should be considered by education authorities as strengthening factors for prevention and control of the disease. Results showed that the best sources for gaining information by the students were (in order of importance) radio and TV, newspaper and educational manuals, which agrees with results of other studies. Research indicates that the best means of acquiring information in developing countries is through radio and TV [35, 36]. According to the results, it is recommended that education and advertisement about prevention of AIDS be planned and implemented with emphasis on diversity of means for students. It is also recommended that AIDS education and prevention classes be institutionalized in schools.

Conclusions

Results of this study showed the effectiveness of educational films and booklets in raising knowledge and attitudes of students in AIDS education.

Contributions

Study design: FK, MN

Data collection and analysis: MN, SS

Manuscript preparation: MI, ME

Conflict of interest

"The authors declare that they have no competing interests."

References

1. Smeltze CZ, Bare GB, Hinkle JL, Cheever KH. Brunner and Suddarth's textbook of Medical Surgical Nursing. Philadelphia: In one volume (Brunner & Suddarth's Textbook of Medical-Surgical Nursing); 2008.
- 1- Quek JET, Li SC. A study of the effectiveness of AIDS health education interventions among the adolescent population of Singapore. *Singapore Med J*2002; 43 (7): 359-364.
- 2- Ministry of Health and Medical Education, Deputy Health, Diseases management Center, Sep;2009. Available at URL: <http://www.undp.org.ir/DocCenter/reports/GFATM%20Final.pdf>
- 3- Health Deputy of Health and Medical Ministry, Information guides of AIDS, Callation Disease Mangment, summer 2008, Available at: URL: http://www.who.int/healthmetrics/documents/hmn_framework200803.pdf
- 4- Dezfoly A. AIDS (Deficiency acquired immunity syndrome). Tehran. Nashr Salemy: 64nt of center, summer; 2009: 73. [In Persian]
- 5- Helmsresht P, Delpisheh E. Health School. Tehran. Nashr Chehr ; 1998: 29-389
- 6- Mazloomi Mahmoodabad SS, Abbasi-Shavazi M. Knowledge and attitude survey of high school students of Yazd Province of Iran about HIV/AIDS. *Tabibe-e-Sharh*2006 8(1): 9-15. [In Persian]
- 7- Sharifzadeh GHR, 8. Moodi M, Zendeudel A. Study of health education effect on knowledge and attitude of high school female students regarding AIDS in Birjand during 2007. *Journal of Birjand University of Medical Sciences*2010; 17(1): 42-49. [In Persian]
- 8- Babae F, Kheradmand M, Hosany J. Assesment of effect teaching school on knowledge level of students of secondary school about of AIDS. *Journal of Mazandaran University of Medical Science*2008; 19(70): 91-92. [In Persian]
- 9- Nwokoch AR, Nwakoby BA. Knowledge, attitude and behavior ef secondry (high) school students concerning HIV/AIDS in Enugu, Nigeria in the year 2000. *J pediatr Adolesc Gynecol*2002; 15(2): 93-96.
- 10- AIDS, Available at URL: <http://www.asriran.com/Fa/news/112865>. Accessed May 16, 2010. [In Persian]
- 11- Ministry of Health and medical education, deputy of health, Iran, HIV statistics at 21 march 2007. Available at URL: <http://Epidemiology.blogfa.com>. Accessed October 29, 2007. [In Persian]
- 12- Abdollahi AA, Mollaie E, Roohi G. Comparing of three methods of education on level of knowledge towards AIDS among high school students in gorgan city, Northern of Iran. *J Payavard salamat*2008; 2(3): 75-80. [In Persian]
- 13- Savasar S. Knowledge and attitudes of high school students about AIDS: A turkish perspective. *Public Health Nursing*2003; 20(1): 71-79.
- 14- Amerian H. Faryadras H. Survey of knowledge of Aids and related with on in last grade student of high school. *Quarterly Research and Family*2007. [In Persian]
- 15- Stanhope M, Lacaster J. Community & public health nursing Gthed. Newyork: Mosby; 2004.
- 16- Mari miler R, Miry V. Guidance of teaching in universities. *Samt Publication*2001; 120.
- 17- Azizi A, Amirian F, Amirian M. To compare the evaluation of HIV/AIDS female high school peer education with lecture by physician and pamphlets in Kermanshah. *Journal of Epidemiology*2009; 4(3-4): 71-76. [In Persian]
- 18- Karimi S, Kazemi S, Shabani Shahr Babaky Z, Vasirinezhad R. Comparison of affective two method (lecturer and pamphlet) on knowledge and attitude in last grade high school. *M edical Science of Hormozgan University Journal*2005; 10(3): 285-290. [In Persian]
- 19- Hossani SH, Shoraka HR, Lashkar Dost H, Rajabzadeh R, Khakshor A. A comparision betwaen lecture and pamphlet teaching methods on knowledge and attitude of high school students about HIV infection in Baneh & Semelghan.

*Journal of North Khorasan University of Medical Sciences*2011; 2(4): 13-18. [In Persian]

20- Vakili MM. Assessment and comparison of the effects of direct and indirect health education methods in the fields of AIDS on knowledge and attitude of male students of Payamnoor University, Saghez Center. *Journal of Zanjan University of Medical Sciences & Health Services*1996; 16: 45-9. [In Persian]

21- Sharifzadeh R, Moodi A, Zendehtdel A. Study of health education effect on knowledge and attitude of high school female students regarding AIDS in Birjand during 2007. *Journal of Birjand University of Medical Sciences*2010; 17(1): 42-49. [In Persian]

22- Ezzati E, Anoosheh M, Mohammadi E. A study of the effects of group discussion with male high school students on their parents' hypertension control. *Journal of Research & Health*2011; 1 (1): 64-72. [In Persian]

23- Akaberian Sh, Bahreini M. A comparison between the effects of training performed by teachers and by health staff on the knowledge of high school students about AIDS in Bushehr, Iran. *Iranian South Medical Journal*2005; 2: 147-530. [In Persian]

24- Mellanby AR, Newcomb RG, Rees J, Tripp J. H. A comparative study of peer-led and adult-led school sex education. *Health Edu Res*2001; 16. 481-92.

25- Pier B, Chirac M, Patrizia S, Carlo A. Is peer education the best approach for HIV prevention in schools? Findings from a randomized controlled trial. *J Adolesc Health*2005; (36)6: 508-16.

26- Torabi MR, Crowe JW, Rhine S, Danil DE, Jeng I. Evaluation of HIV/AIDS: Education in russia using & video approach. *J Sch health*2000; 70(6): 229-233. [In Persian]

27- Delamater J, Wagstaff DA, Havens KK. The impact of a culturally appropriate STD/AIDS education intervention on black adolescents sexual and condom use behavior. *Health Edu Behv* 2000; 27(4): 454-470.

28- Safari M, Shojaezadeh D, Mahmoud M, Hossein SR. A comparison between two health education methods on diet: lecture versus videotape Authors. *Payesh*2011;10(1): 63-70. [In Persian]

29- Adult and opportunity in crisis, why must be focus attention on adult? percrescent society of Kermanshah province. 2002.

30- Motahari MS, Hejazi Sh, Shah Nazari J, Mahmoodi M. Comparing the effect of two

teaches methods about HIV/AIDS Son the students' knowledge and attitude at Islamic Azad University of Lahijan in 2003. Strides in Development of Medical Education. *Journal of Medical Education Development Center of Kerman University of Medical Sciences*2005; 1: 49-55. [In Persian]

31- McAlpine L. Comparison of the effectiveness of tutored videotape instruction versus traditional lecture for a basic hemodynamic monitoring course. *J Knur's Staff Dev*1996; 12(3): 119-25 .

32- Kinsman J, Nakiyingi J, Kamala A, et al. Evaluation of comprehensive School-based AIDS education programed in rual maska. *Health Edu Res*2001; 16(1): 85-100.

33- Ranjbar H. Knowledge and attitude of high school students regarding AIDS in torbat heydarie during 2008. *J Infec Dis*2009; 14 (45): 51-56. [In Persian]

34- Azizi A, Amirian F, Amirian M. To compare the evaluation of HIV/AIDS female high school peer education with lecture by physician and pamphlets in Kermanshah. *Journal of Epidemiology*2006; 1(14): 12-15. [In Persian]

35- Panahandeh Z, Taramian S. Knowledge and attitude of Guilan University Non-Medical Students towards AIDS. *J Guilan Univ Med Sci*2004; 13(49): 20-26. [In Persian]