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# The Effect of Educational Intervention on Knowledge, Attitude and Performance of High School Girl Students about AIDS

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***Abstract***

***Introduction***
Human immunodeficiency virus (HIV) and Acquired immune deficiency syndrome (AIDS) is one of the most complex problems of health in the world. Since youth group and mostly students are one of main groups at risk, this study was conducted to evaluate the effect of educational intervention on knowledge, attitude and performance of high school students about AIDS.

***Materials and Methods***
This quasi-experimental study was conducted on 60 girls selected randomly from two public schools and they divided into two control and intervention groups. Research tool was a researcher-made questionnaire including two parts (demographic questions and specialized questions about AIDS). Firstly, a pretest was held, then 3 educational sessions were held on AIDS, its' transmission and prevention ways by speech, ask and answer, and educational pamphlet. Students took posttests immediately after educational intervention and two months later. Data were analyzed by statistical tests including chi-square test, paired t- test, independent t- test, and Rapid Manager and using SPSS version 13.

***Results***
Mean score of participants' knowledge about HIV was 16.8±3.8 before intervention; it increased to 24.4±3.1 immediately, and 24.5±3.1 two months after intervention (P<0.001). Mean score of participants' attitude about HIV was 58.5±7.5 before intervention; it increased to 69.2±6.0 immediately, and 72.4±6.7 two months after intervention (P<0.001). Moreover, mean score of participants' performance about HIV was 2.4±1.4 before intervention; it increased to 4.6±1.4 immediately, and 4.8±1.2 two months after intervention (P<0.001).

***Conclusion***
Findings showed that this educational intervention improved students' knowledge, attitude and performance. So, executing educational programs in schools, with a focus on common diseases, should be seriously considered by school officials and health managers.

***Keywords**:* AIDS, Attitude, Education, Knowledge, Performance, Students.

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## Introduction

Acquired immune deficiency syndrome (AIDS), which is known as an infectious and the most fatal disease of twentieth century, is caused by human immunodeficiency virus (HIV). HIV suppresses body immune system via contaminating T lymphocytes (1, 2). AIDS was first reported in 1981 in California. But soon after, it spread worldwide (3). AIDS is a disease that in terms of its social problems, incidence and prevalence in active ages of society, high fatality rate and the cost of intensive care is considered among the main problems of the health care system; and control, prevention and care of patients are among the main activities that the health care institutions provide worldwide for this disease (4). AIDS in many countries stem from intravenous drug abuse, unemployment, poverty and prostitution, and it has been raised as the second most important infection leading to death globally (5). According to World Health Organization (WHO), 7 thousand in a day, in other words 5 young people aging 10-24 years in a minute are infected with the virus (6). Recent reports of WHO/ UNAIDS (United Nations Programme on HIV/AIDS) suggest 40 million men, women and children are infected with HIV (7). Despite the initial impression that the disease is assumed to be limited to homosexuals, IV drug abusers and special countries, it has been proved that AIDS has no boundaries, sex and age (8).

The highest rate of infections have taken placed in East Asia, Eastern Europe and Central Asia and new cases of infection have been seen in young people aging 15- 24 years in most countries (9). However, according to the Ministry of Health announcement, the prevalence rate of HIV in Iran entered from low level to concentrated prevalence (10). According to the last statistics in relation to HIV/ AIDS published by ministry of heath and medical education, from the start of epidemic to end of first half of 2014, 28663 people with HIV/ AIDS were identified in Iran, whom 88.4% of them were men and the others were women (11). The alarm will sound prevalence of HIV infection in our country and therefore we must know the importance of education and prevention programs to combat this disease (12), because there is no cure for this disease and the only way to combat is prevention (13).

Various studies show that youth groups are highly vulnerable to HIV infection (14), because they are exposed to high-risk behaviors such as drug, alcohol and sexual contact; so that Centers for Disease Control and Prevention (CDC) on youth's risk behaviors showed that 50 percent of high school students had sexual relations in US. On the other side, 50% of new cases with AIDS occur in these ages (15). Schools are responsible to run and develop intervention programs of HIV prevention in adolescents; schools are threatened by sexually transmitted diseases and HIV and they also play a prominent role in strengthening the knowledge, attitude and executing prevention programs. The school-based HIV prevention programs in America has shown the effectiveness of school programs on increasing awareness, belief change, self confidence and reducing high risk sexual behaviors in adolescents (16). Since youth group and mostly students are one of main groups at risk, this study was conducted to evaluate the effect of educational intervention on knowledge, attitude and performance of high school students about AIDS.

## Materials and Methods

This quasi-experimental study was conducted on 60 female students of the first class in high school selected randomly from two public schools placed in 5$^{th}$ region of Education and Training authorities, educational year 2014- 2015. Sampling was multistage, so that at first among the seven areas, the 5$^{th}$ region was randomly selected and two schools were selected among public female high schools by randomly convenience sampling, and then one class

including 30 students selected from each school, one class was considered as a control group and the other as an intervention group. It should be noted that the school considered as control was near to intervention school to be matched geographically and socio-cultural level. Research tool was a researcher-made questionnaire including two parts: 11 demographic questions, and specialized questions assessing knowledge, attitude and performance of students about AIDS. There were 14 knowledge questions, and each question scoring included: Yes= 2, Do not know= 1, No= 0; there were 17 attitude questions attitude part consists of 17 questions in a 1-5 likert score scale (completely disagree=1 to completely agree=5). Performance assessment included 6 questions. We used the Community Health Systems (CHS) questionnaire applied to CDC, which its reliability and validity was confirmed by several researchers (17, 18).

Firstly, a pretest was held with the questionnaire, then 3 educational sessions were held on AIDS, its' transmission and prevention ways by speech, ask and answer, and educational pamphlet. Students took posttests immediately after educational intervention and two months later. Data were coded and analyzed by statistical tests including chi-square test, paired t-test, independent t, and Rapid Manager and using SPSS 13. $P<0.05$ was considered significant.

## Results

60 students who qualified the inclusion criteria were assessed. We used Rapid Manager to determine the effect of intervention on students' knowledge, attitude and performance in intervention group, and paired t- test in control group. According to Table 1, there was a significant difference between knowledge, attitude and performance scores before and after intervention, but it was not significant in control group. There was also a significant difference between mean scores of knowledge, attitude and performance of two intervention and control groups after intervention ($P<0.05$).

In relation to the sources of information about AIDS, these findings suggest that television had the highest share (66.3%), newspapers and magazines, friends, peers and health workers were in the next (Figure. 1).

**Table 1**: Compares the mean ± SD of changes in knowledge, attitude and performance before and after intervention, between the intervention and control groups

| Variables | Statistical | | Knowledge | Attitude | Performance |
|---|---|---|---|---|---|
| Intervention | Befor | Mean± SD | 16.83 (3.82) | 58.5 (7.5) | 2.4 (1.44) |
| group | Immediately | Mean± SD | 24.4 (3.09) | 69.19 (6.01) | 4.6 (2.4) |
| | After | Mean± SD | 24.5 (3.1) | 72.35 (6.7) | 4.8 (2.2) |
| | | P value | 0.001 | 0.001 | 0.001 |
| Control | Befor | Mean± SD | 15.97 (3.22) | 57.1 (6.6) | 2.1 (1.38) |
| group | After | Mean± SD | 16.37 (3.91) | 57.4 (6.8) | 2.4 (1.42) |
| | | P value | 0.423 | 0.386 | 0.1 |

**Table 2**: Comparison of mean scores of knowledge, attitude, performance before and after intervention, between the intervention and control groups

| Variables | | Statistical | Knowledge | Attitude | Performance |
|---|---|---|---|---|---|
| Befor | Control group | Mean± SD | 15.97(3.22) | 57.1 (6.6) | 2.1 (1.38) |
| intervention | Intervention group | Mean± SD | 16.83 (3.82) | 58.5 (7.5) | 2.4 (1.44) |
| | | P value | 0.35 | 0.58 | 0.08 |
| After | Control group | Mean± SD | 16.37 (3.91) | 57.37 (6.8) | 2.4 (1.42) |
| intervention | Intervention group | Mean± SD | 24.5 (3.1) | 72.35 (6.7) | 4.8 (2.2) |
| | P value | Mean± SD | 0.001 | 0.001 | 0.001 |

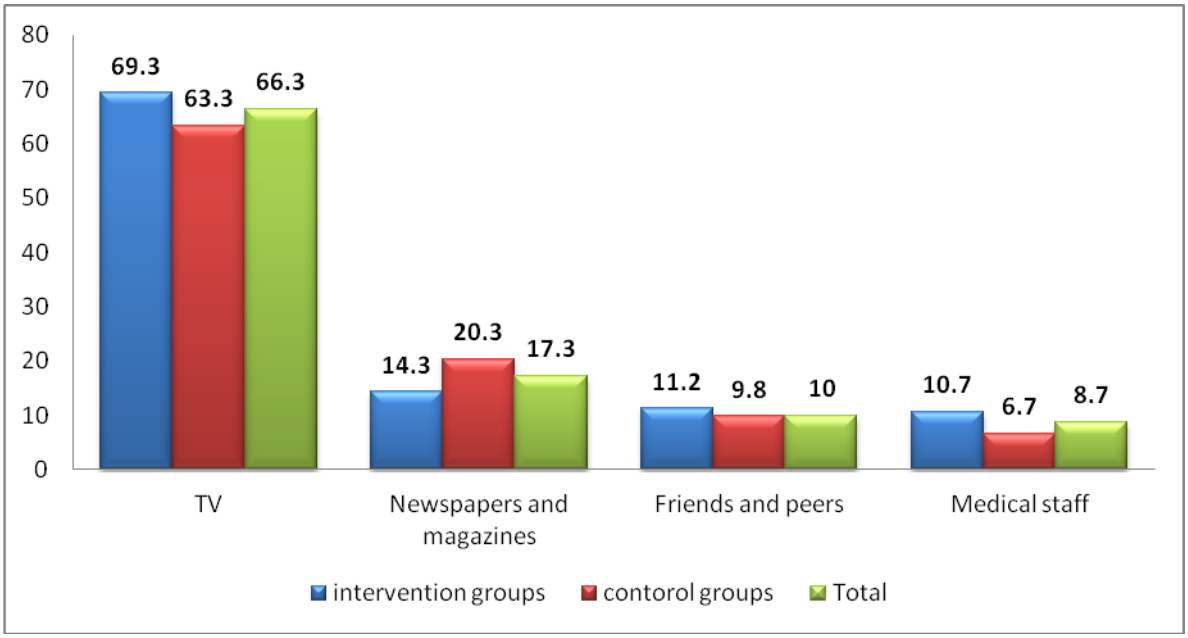


**Fig1:** The sources of information about HIV/AIDS in Students

## Discussion

Having knowledge and information is the first key and necessary element in an attempt for development of a health behavior (17). So, it is important to inform the students as an important segment and at risk of AIDS in order to prevent this disease among them and finally among the community. Sharif zadeh et al. (17) assessed female students of the second and third class of high school in Birjand. Their findings showed that 38% of the participants had a good level of knowledge, 42% were moderate, and 20% were poor; in terms of attitude, 12.8% were favorable, 85.8% and 1.4% were moderate, and poor, respectively. Knowledge and attitude of Birjand students were lower than the present study.

Behjati (19) assessed the last year students of a high school in Yazd. Their findings showed that 23.5% of the participants had a good level of knowledge, 51.1% were moderate, and 24.1% were poor. Alizadeh et al. (18) showed that the second class students' knowledge of a high school in

Zahedan was as followed: 27% poor knowledge, 40% moderate, and 33% had good knowledge, which was nearly in consistence with the present study.

Taghizade's (20) study on 17-19 years old teenagers showed that 43% of the adolescents had poor knowledge about AIDS, 50% moderate and 7% good; that it was lower than the present study.

Savaser (21) showed that the knowledge rate of high school students in Turkey was moderate. But, Nwokocha (22) determined that students' knowledge about AIDS in Nigeria was poor. With regard to above mentioned results, it seems that adolescents and students do not have good knowledge and attitude toward AIDS.

Present findings showed the positive effect of educational intervention on students' knowledge, attitude and performance; so that mean score of participants' knowledge about HIV increased from 16.8±3.8 to 24.5±3.1, mean score of participants' attitude increased from 58.5±7.5 to 72.4±6.7 and as a result mean score of participants' performance increased from 2.4±1.4 to 4.8±1.2.

Ebadi et al. (23) study on the impact of health education on students' knowledge about AIDS also showed a significant relationship; so that 88.5% of the students had good knowledge before intervention, which it increased to 100% after intervention.

Alizadeh et al. (18) study on the impact of education on knowledge, attitude and performance of high school students in Zahedan about AIDS showed a significant relationship; so that their knowledge increased from 11.8 to 16.32.

Akaberian (24) also showed the effect of training by teachers on improving students' knowledge about AIDS in a similar way; so that their knowledge score increased from 17.02 to 18.13. Speizer (25) and Magnussen (26) studies on short-term effect of school based training about AIDS indicated the positive effect of education on students' knowledge. Present findings are in consistent with the present study.

In this study, a significant difference between the scores before, immediately and after training represents a fundamental change in students' attitude and the positive impact of intervention. It seems that better attitude of research students after the training than before the training is caused by increasing their knowledge. In other words, increasing knowledge caused a positive attitude. Gao et al. (27) on education efficacy on knowledge, attitude and behavior of high school students, showed that 10-40% of students had negative attitude toward HIV/AIDS, which it decreased 21% after education. Studies conducted by Shojaee zadeh (28), Sharif zadeh (17) and Alizadeh et al. (18) also showed that there was a significant difference between mean scores of attitude before and after intervention; which is in consistence with the finding of the present study.

The present findings also showed that participants' performance had a significant difference before and after educational intervention. However, Butts and Charuluxananan's studies (29, 30) did not show any change in participants' behavior. But there was a statistically significant difference between performance before and after education in studies conducted by Harvey and Grinstead (31, 32); in other words, educational programs are effective in changing students' behavior appropriately. Alizadeh et al showed a statistical difference between students' performance before and after intervention, which was similar with the present findings. Findings of present study indicate a statistically significant relationship between knowledge, attitude and performance.

The present study showed that TV has a key role in informing the students and then magazines and books are the most

important sources of students' previous information about AIDS but role of healthcare staff is very light. This finding is in consistent with findings of other researchers in this field (17, 33, 34). This result can state the role of mass media in the dissemination of HIV and AIDS, so we should pay special attention to this issue and education programs.

## Conclusion

According to the present findings, educational intervention by speech, ask and answer, and educational pamphlet has improved knowledge, attitude and performance of the students. Since WHO considers young people and students at forefront of risk for HIV/ AIDS, authorities and managers of health and education in schools should pay attention seriously to executing health education programs esp. endemic and common diseases as a training priority.

We should address to some limitations of the present study. Sample size and research on female students are the greatest limitation of the present study. So we suggest educational interventions on high school students more broadly and with a greater sample size in all male and female high schools of Mashhad.

**Conflict of Interest**: None.

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