

The Knowledge and Attitude of Teachers about HIV/AIDS; before and after Training in Khorasan Razavi Province, Iran

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Abstract

Introduction

The human immunodeficiency virus (HIV) is a retrovirus that infects cells of the immune system, destroying or impairing their function. As the infection progresses, the immune system becomes weaker, and the person becomes more susceptible to infections. The most advanced stage of HIV infection is acquired immunodeficiency syndrome (AIDS). The present study aimed to evaluate the effect of intervention training on knowledge and attitude of teachers about HIV/AIDS.

Materials and Methods

This quasi-experimental study, 11 cities were selected randomly cluster among 27 cities of Khorasan Razavi province- Iran. The study teachers were selected multi stage cluster sampling method; so, in the selected cities, randomly selected a number of 4 high schools of each cluster, and all the teachers of these schools were invited to participate in this research. At pre-test basic knowledge and attitude of teachers about HIV/AIDS were evaluated. Then their educational needs and curriculum were designed. Then 2 weeks after conducting the education, teacher's knowledge and attitude were evaluated (post-test).

Results

1,838 teachers with the mean age of 39.81 ± 6.104 participated in this study. The mean score of their knowledge about HIV/AIDS rose from 11.84 ± 2.116 to 12.2 ± 1.450 after intervention. The mean score of their attitude about HIV/AIDS rose from 18.07 ± 4.740 to 20.64 ± 4.905 after intervention. The results showed that there was a significant difference between teachers' knowledge and attitude before and after the training program ($P=0.000$).

Conclusion

According to the study it can be concluded teachers training to increase knowledge about HIV/AIDS and improve their attitude towards the disease AIDS.

Key Words: Attitude, HIV/AIDS, Knowledge, Teachers, Training programs.

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1- Introduction

1-1: 10 facts on HIV/AIDS

- HIV continues to be a major global public health issue, having claimed more than 34 million lives so far. In 2014, 1.2 [980 000–1.6 million] million people died from HIV-related causes globally.
- There were approximately 36.9 [34.3–41.4] million people living with HIV at the end of 2014 with 2.0 [1.9–2.2] million people becoming newly infected with HIV in 2014 globally.
- Sub-Saharan Africa is the most affected region, with 25.8 [24.0–28.7] million people living with HIV in 2014. Also sub-Saharan Africa accounts for almost 70% of the global total of new HIV infections.
- HIV infection is often diagnosed through rapid diagnostic tests (RDTs), which detect the presence or absence of HIV antibodies. Most often these tests provide same day test results; essential for same day diagnosis and early treatment and care.
- There is no cure for HIV infection. However, effective antiretroviral (ARV) drugs can control the virus and help prevent transmission so that people with HIV, and those at substantial risk, can enjoy healthy and productive lives.
- It is estimated that currently only 53% of people with HIV know their status. In 2014, approximately 150 million children and adults in 129 low- and middle-income countries received HIV testing services.
- By mid-2015, 15.8 million people living with HIV were receiving antiretroviral therapy (ART) globally.
- Between 2000 and 2015, new HIV infections have fallen by 35%, AIDS-related deaths have fallen by 24% with some 7.8 million lives saved as a result of international efforts that led the global achievement of the HIV targets of the Millennium Development Goals.
- Expanding ART to all people living with HIV and expanding prevention choices

can help avert 21 million AIDS-related deaths and 28 million new infections by 2030 (1-5).

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 (6). AIDS is now one of the main causes of death among adolescents and young people aged 15 to 24 years old, and many of the people that are in this age group are students and university students. Reported cases of HIV infection among students has increased from 0.96% to 1.64% between 2006 and 2011 (7). Iran's geographical position is very dangerous and as of now, the highest rate of infections can be seen in Iran's Northern neighbors, East of the Asia and the Eastern Mediterranean region (8).

According to the statistics published in the first half of 2010 a total of 21,435 people with HIV/AIDS have been identified in our country, and 92.6% of them were men and the other (7.4%) were women. Young people are the most at risk group in the world. Because of satisfying their curiosity, peer pressure and lack of knowledge and skills, they face unsafe sex and drug use risk. So in comparison with adults they are more at risk of developing HIV/AIDS (9).

In the descriptive study that was conducted by Edin et al., entitled "Assessment of Knowledge and attitude of Bangladeshi adolescents in AIDS prevention", the average level of knowledge and the attitude level of neutral was obtained (10). Also in a study on Chinese students it was found that their knowledge about AIDS was average and boys compared with girls had more positive attitude towards people with HIV/AIDS (11). Also in a study on non-medical students in Uganda it was found that students had high knowledge about HIV/AIDS, but they didn't had suitable behavior to prevent infection; this study showed that the source of information for boys 92.5% of cases are

friends and 90% of girls were getting their information from magazines and newspapers (12).

Since a large percentage of children are studying in school (13), training in schools is really important in HIV/AIDS prevention. These trainings should be a combination of information about HIV/AIDS, its transmission and prevention ways, and skills to prevent HIV/AIDS by implementing certain behaviors (13).

One of the major factors affecting the quality of training, are educational methods. The most common method is speech training and in this method, all students despite individual differences are trained. In this method teachers are active and learners are passive and will listen to the teachers. But we must remember that learning is an individual act and would not take place without learner activity. Therefore the teacher should bring about changes in behavior by creating designed opportunities, and in this respect, it is necessary to pay attention to those teaching methods that make the learner more active and dynamic (13). Experts believe that lack of knowledge of the most important factors in AIDS infection among adolescents.

There are different approaches to AIDS prevention programs that including: providing training on HIV and AIDS by teachers and NGOs (14). Given the importance of the role of schools in informing and educating young people about HIV, it is necessary for enforcement of this training, the teachers have sufficient knowledge about HIV (15). Mathews says "teachers' knowledge and attitudes about HIV and AIDS is one of the most important factors in the spread of AIDS education in communities". Teacher training to improve the implementation of AIDS prevention program by raising knowledge among teachers about HIV and the importance of it (16). Today, the emphasis of health and preserve and promote it. One of the measures to achieve this goal is health education (17).

For this reason in order to control the disease, educational planning at different levels and determining their level of their knowledge about the issue is really important. So, we decided to evaluate the knowledge and attitude of Khorasan Razavi high school teachers about HIV/AIDS.

2-Materials and Methods

This quasi-experimental study was conducted on 1,838 teachers in September to November 2013. 11 cities of total 27 cities in Khorasan Razavi province, Northeastern Iran, selected randomly. The study population included subject teachers in high schools responsible for teaching general and/or social sciences in grades 1-4 in classroom settings. The study teachers were selected randomly from 3 clusters of each selected cities. In each area (cluster), 3 schools were randomly selected from lists of schools provided by the local Education department and city Health center; so in each city, we include all teachers from 9 schools selected for this research. Before visiting the schools, coordination with the Education Department and high schools was done. The instrument used in this study was a researcher-made questionnaire and including two parts (demographic information of research units and questions regarding students knowledge and attitude about HIV/AIDS) that was composed of 60 questions. There were 24 knowledge questions, and each question scoring included: Yes= 2, Do not know= 1, No= 0; there were 26 attitude questions attitude part consists of 24 questions in a 1-5 likert score scale (completely disagree=1 to completely agree=5). Performance assessment included 10 questions.

For validity and reliability of questionnaire, content validity and Cronbach's alpha test methods were used respectively. To determine the validity, the questionnaires were sent to 5 of health education specialists and based on their opinions the necessary changes in the questionnaire were applied. According to the results of the Cronbach's alpha, total reliability questionnaire was calculated $\alpha = 0.83$. In the first phase (before

training intervention) questionnaire was completed by all participants in each city; and according to the educational needs of the teachers, educational content was provided. To evaluate the effectiveness of training intervention in the second phase (after training) 4 weeks after the training programs, knowledge and attitude of research units were examined by the questions of the previous questionnaire. Then it was compared with the data obtained from the first phase questionnaires. Data obtained from sample volumes were input as raw data into SPSS-13 software and were analyzed using descriptive statistics and inferential statistics tests including t-test, ANOVA, Tukey’s test and Pearson correlation coefficient. P-values less than 0.05 were considered statistically significant.

3-Results

1,838 teachers who qualified the inclusion criteria were assessed. The mean age of teachers

were 39.81 ± 6.104 ; 40.1% of them were male and 59.9% were female. (Figure.1) shown the sample is selected from the cities of Khorasan Razavi province. Teachers' level of education was as follows: 0.06% Diploma, 7% Associate degree, 80.6% Bachelor and had 11.8% Master degree. Results showed there was a significant relationship between knowledge and education levels, so the teachers with highest scores knowledge had a bachelor's and a master's degree ($P < 0.05$).

According to (Table.1), there was a significant difference between knowledge and attitude scores before and after intervention training ($P < 0.05$).

Results showed a statistically significant relationship between age, gender, level of education, work experience, field of work and knowledge and attitudes of teachers; so knowledge and positive attitude of women teachers with less experience, BA and MA degree and tutors, were than the others ($P < 0.05$) (Table.2).

Table 1: The comparison of intervention training on the knowledge and attitude of teachers

| Variables | Pre-test | Post-test | P value |
|-----------|---------------|---------------|------------|
| | Mean± SD | Mean± SD | |
| Knowledge | 11.84(2.1163) | 18.07(4.7405) | $P < 0.05$ |
| Attitude | 12.20(1.4505) | 20.64(4.9056) | $P < 0.05$ |

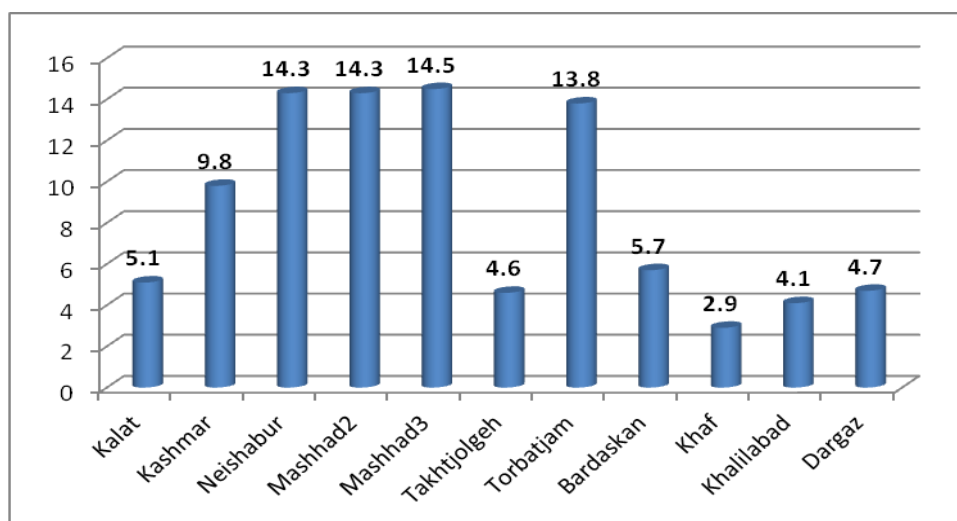


Fig.1: The frequency of samples from 11 different cities of Khorasan Razavi

Table 2: The Comparison of sources of information about AIDS in teachers

| Sources of information about AIDS | Before intervention (%) | After intervention (%) |
|-----------------------------------|-------------------------|------------------------|
| School | 20.15 | 21.94 |
| Friends | 12.15 | 13.72 |
| Family | 7.22 | 8.21 |
| National Media | 79.51 | 80 |
| Internet | 23.22 | 31.24 |
| Journals and Newspaper | 65.38 | 64.21 |
| Health Centers | 45.67 | 59.13 |
| Conferences | 7.99 | 10.91 |
| Others | 12.26 | 11.67 |

4-Discussion

The main aim of this study was to improve knowledge in order to change the attitude of the teachers by the first level prevention, i.e. training about HIV/AIDS disease and how to prevent it through the use of methods of training, by implementing an intervention training program. Since there is no effective vaccine for the treatment of HIV/AIDS, the only way to protect young people in the society is by training and prevention; and the teachers play an important role in this regard because if teachers know a lot about HIV/AIDS, they can transfer knowledge and positive attitudes to students. Also, having knowledge and information is the first key and necessary element in an attempt for development of a health behavior (18).

Results of Lohmann et al. in Belize showed that 34.1% of the teachers had low or intermediate level of knowledge (19). The finding Mazloomi and Baghianimoghadam in Yazd showed the average knowledge of teachers was 11.5 of total number 17 and 84.1% of teachers believed that the best way to prevent disease is education (20). Oyewale in Nigeria in their study concluded that due to the important role of teachers in educational students, the teachers must be on training to increase their knowledge about HIV/AIDS disease (21).

Mathews and colleagues in South Africa, showed that teachers who have gone through the training AIDS, compared to teachers who did not have the training, scores knowledge about HIV/AIDS were higher (22).

The current study showed that after training intervention, a significant increase in the mean scores of knowledge and attitude of those who have been trained is identified. This reflects the positive effect of training intervention on the promotion of knowledge and attitude. This result corresponds to Zesch et al. study, titled "Summative Evaluation of a HIV/AIDS Early Childhood Care, Education and Development Teacher Training" (23).

This shows that a training program would improve the knowledge and attitude of teachers about HIV/AIDS and will have a positive effect on future action (24). Also, the results of Avina et al. in Russia showed that 89% of teachers had received formal education about AIDS and there was a significant relationship between teachers' knowledge about HIV and their attitudes toward AIDS was available (25). Nazeema et al. study in South Africa show training in raising awareness and changing teachers' attitudes towards AIDS has been effective (26). The results of Shojaei et al. showed that knowledge of teachers about HIV/AIDS prevention especially in relation to prevention methods is low, and training programs can

improve knowledge and attitude of teachers about HIV/AIDS (27).

5-Conclusion

AIDS is one of the health-related problems in the world. As there is no efficient treatment for the disease, the best way to halt its spread is prevention. The best way of prevention is to educate and promote the knowledge level among various social classes, especially teachers, because they have an important role in educating students. According to the results, training programs such as lectures, question and answer and educational pamphlets are one of the best methods to increase teachers' knowledge and attitude about HIV/AIDS disease.

5-1: Notes about AIDS

5-1-1: *HIV (human immunodeficiency virus) infects cells of the immune system*

Infection results in the progressive deterioration of the immune system, breaking down the body's ability to fend off some infections and other diseases. AIDS (Acquired immune deficiency syndrome) refers to the most advanced stages of HIV infection, defined by the occurrence of any of more than 20 opportunistic infections or related cancers.

5-1-2: *HIV can be transmitted in several ways*

HIV can be transmitted through:

- unprotected sexual intercourse (vaginal or anal) or oral sex with an infected person;
- transfusions of contaminated blood;
- the sharing of contaminated needles, syringes or other sharp instruments;
- the transmission between a mother and her baby during pregnancy, childbirth and breastfeeding.

5-1-3: *There are several ways to prevent HIV transmission*

Key ways to prevent HIV transmission:

- practice safe sexual behaviours such as using condoms;
- get tested and treated for sexually transmitted infections, including HIV;
- avoid injecting drugs, or if you do, always use new and disposable needles and syringes;
- ensure that any blood or blood products that you might need are tested for HIV.

5-1-4: *36.9 million people are living with HIV worldwide*

Globally, an estimated 36.9 million [34.3–41.4 million] people were living with HIV in 2014, and 2.6 million [2.4–2.8 million] of these were children. The vast majority of people living with HIV are in low- and middle-income countries. An estimated 2.0 million [1.9–2.2 million] people were newly infected with the virus in 2014. An estimated 34 million people have died from AIDS-related causes so far, including 1.2 million [1.0–1.5 million] in 2014.

5-1-5: *Combination antiretroviral therapy (ART) prevents the HIV virus from multiplying in the body*

If the reproduction of the HIV virus stops, then the body's immune cells are able to live longer and provide the body with protection from infections. If the HIV positive partner in a couple is on ART, the likelihood of sexual transmission to the HIV-negative partner decreases dramatically by 96%.

5-1-6: *As of early 2015, 15 million people were receiving ART worldwide*

If these, close to 13.5 million live in low- and middle-income countries. WHO recommends initiating ART when their CD4 cell counts falls to 500 cells/mm³ or less. ART regardless of CD4 count is recommended for all people living with HIV in serodiscordant couples, pregnant and breastfeeding women living

with HIV, people with TB and HIV, and people co-infected with HIV and hepatitis B infection with severe chronic liver disease. Likewise, ART is recommended for all children living with HIV who are younger than 5 years-old. Reaching all eligible people with treatment remains a huge challenge.

5-1-7: HIV testing can help to ensure treatment for people in need

Access to HIV testing and medicines should be dramatically accelerated in order to reach the goal of Ending AIDS by 2030. Approximately 150 million children and adults in 129 low- and middle-income countries reportedly received HIV testing services in 2014. However, HIV testing reach is still very limited, as only an estimated 51% of people with HIV know their infection status.

5-1-8: An estimated 2.6 million children are living with HIV

According to 2014 figures most of these children live in sub-Saharan Africa and were infected by their HIV-positive mothers during pregnancy, childbirth or breastfeeding. Close to 220 000 children [190 000–260 000] became newly infected with HIV in 2014.

5-1-9: Elimination of mother-to-child-transmission is becoming a reality

Access to preventive interventions remains limited in many low- and middle-income countries. But progress has been made in some areas such as prevention of mother-to-child transmission and keeping mothers alive. In 2014, a little over 7 out of 10 pregnant women living with HIV – 1 070 000 women – received antiretrovirals worldwide. In 2015, Cuba was the first country declared by WHO as having eliminated mother-to-child transmission of HIV and syphilis.

5-1-10: HIV is the strongest risk factor for developing active TB disease

In 2013, approximately 360 000 deaths from tuberculosis occurred among people living with HIV. That is one fourth of the estimated

1.5 million deaths from HIV in that year. The majority of people living with both HIV and TB reside in sub-Saharan Africa (about 78% of cases worldwide).

5-2: Study limitations: The data analyses were done based on a cross-sectional data; therefore, causal interpretation of the results cannot be established. In addition, since all variables were measured by self-report instruments, which may have caused some bias considering the sensitive nature of the AIDS. It is important for future studies also to use other forms of data collection, such as interviews, and focus group discussions (1-5).

6-Conflict of interest: None.

7-Acknowledgment

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