Perceptions of secondary technical schools students in Assiut, upper Egypt, about AIDS: Effect of an educational intervention

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ABSTRACT

Background and Purpose: Acquired Immunodeficiency Syndrome (AIDS) is a great threat to the youth. The aim is to assess the knowledge of secondary technical schools students on AIDS, identify related misconceptions, and measure the effect of a short health education program on their level of knowledge. Materials and Methods: This quasi-experimental study was done on 575 secondary technical schools students in Assiut City, recruited through a two-stage stratified cluster sampling. A self-administered anonymous questionnaire was used to collect data. A health education program was implemented, and its effect assessed through pre-post testing. Results: The age range of the students was 16 to 20 years, with more girls (57.0%). Only 30.8% had satisfactory knowledge about AIDS in the pretest. Statistically significant improvements in knowledge were revealed after program implementation (P<0.001). Students who were Muslim, of urban residence, and had mobile phones had significantly higher scores (P=0.037, 0.004, 0.038 respectively). The most common misconceptions were the definition of AIDS according to transmission, and phobias related to transmission, which decreased after the intervention. Multivariate analysis showed that the statistically significant independent predictors of the change in knowledge score after the intervention were age, religion and the health education program. Conclusion: Secondary technical schools students in Assiut city have a major deficiency in knowledge and many misconceptions regarding AIDS. The educational intervention had a positive impact on their knowledge, but a less marked effect on misconceptions. Knowledge was affected by age and religious belief. It is recommended that more health educational efforts tailored to needs and with approaches suitable to community cultures and values be introduced.

Key words: AIDS, health education, technical secondary school students, upper Egypt

INTRODUCTION

At present, more than half of the new cases of human immunodeficiency virus (HIV) infection in the world involve young people aged between 15 and 24 years, with an estimated 11.8 million people affected. Nevertheless, the knowledge and awareness of this disease is still low in many countries. In Sudan, about half of the dental students investigated reported a need for continued education on HIV and AIDS. In Iran, the knowledge and attitude of high school students towards AIDS were full of misconceptions. Moreover, attitude towards AIDS and HIV positive patients was very intolerant. Similarly, most adolescents surveyed in Singapore felt that they were inadequately educated on HIV and AIDS. Although the prevalence of HIV is low in Egypt, unsafe behavior among the population most-at-risk place Egypt at the risk of an epidemic. In a study assessing the perception of HIV/AIDS and risky behaviors of adults living in poor areas, poor knowledge about HIV/AIDS was remarkable. The study also revealed several misconceptions of the modes of transmission and preventive measures to protect oneself from HIV/AIDS.

It is obvious that many of the national and international health and development goals and targets cannot be attained without addressing the needs of these young people. The lack of practical information and knowledge about how to prevent HIV infection is one of the factors that has contributed most to the increased risk of infection in adolescents.
Health education, with emphasis on sex education, and with particular reference to HIV/AIDS, has been shown to work in countries like Uganda, which has seen a drop in the prevalence of HIV from over 35% to below 20% between 1992 and 1996.\(^9\) Similarly, peer education in the rural areas of Nigeria proved to be an effective means for the reduction of prevalence of AIDS through positive influences on knowledge and behavior.\(^10\)

Therefore, the significant gaps in knowledge about transmission and curability of AIDS put young Arabs at risk of contracting the disease. Hence education that is designed to improve knowledge, change attitudes, and respect cultural norms and traditions is urgently needed from all sources such as media, schools, and health care providers.\(^11\) It is best to start this early with adolescents in a carefully planned flexible school-based sexual education to reflect the diversity of values and beliefs of the various communities.\(^12\)

The youth form a significantly large growing group in the population of Egypt. Nonetheless, these young people do not receive much attention and have scant knowledge of reproductive health. In addition, there are pervasive fears and stigmatization of HIV/AIDS and a lack of effective related education programs and other preventive measures, such as peer education, outreach and communication to change behavior. School-based programs are the best means of giving the largest number of young people preventive health education. This should also present them with a means to identify their personal values and to develop a positive self-esteem to enable them to resist the pressure of engaging in risky sexual behavior. To identify the actual needs for such programs, one must assess the knowledge, awareness and attitudes of these students and identify the gaps. Although the role of the mass media in creating awareness of this new threat to life is increasing, the real problem is to determine the adequacy and suitability of the information available to these young people and decide whether it helps them to develop the correct attitudes and behaviors towards HIV/AIDS. On the other hand, should a program on health education be developed specifically for this purpose and be introduced and taught in schools.

**Aim of the study**

To assess the knowledge of students of secondary technical schools concerning AIDS, identify related misconceptions, and measure the effect of a short health education program on their level of knowledge.

**MATERIALS AND METHODS**

**Study design**

A cross-sectional, descriptive design was used to assess knowledge and misconceptions, and a quasi-experimental design with pre-post assessment was used to measure the effect of the educational intervention.

**Setting**

The study was carried out in secondary technical schools in Assiut City during the 2008 academic year.

**Population and sample**

The sampling population consisted of all students enrolled in the secondary technical schools in Assiut City during the 2008 academic year. Schools were stratified according to type (commercial, agricultural and industrial) and according to gender. A two-stage stratified cluster sampling technique was utilized to recruit students in the sample. The sample size was calculated to estimate a prevalence rate of misconceptions of 50% or more, with a standard error 15% at a 95% level of confidence, using Epi-Info 6.04 statistical software package. Accordingly, the required sample size was 171 students. The sample was increased to 575 to compensate for a design effect 3 for multistage cluster sampling, and for an expected dropout rate of 10%. This sample size was large enough to detect a pre-post decrease in misconceptions by a Relative Risk of 0.65 at a 95% level of confidence and 90% power.

**Data collection tool**

A self-administered anonymous questionnaire consisting of open and closed questions was used to collect information. It was designed by the researchers based on pertinent literature, and pilot-tested for clarity. The questionnaire consisted of two parts: the first part asked for personal information; and the second part consisted of questions related to the definition of AIDS, transmission, and prevention. A health education program was prepared and implemented for small groups of students in classes. The program consisted mainly of short interactive lectures and group discussions using audio-visual aids. It was preceded by a pretest and followed by a post-test using the second part of the same self-administered questionnaire. The fieldwork lasted from October 2008 to January 2009.

**Administrative aspects and ethical considerations**

Official permission was secured from the responsible authorities. Informed consent was obtained from the parents of students to participate in the study. They were reassured that any information obtained would be treated with the utmost confidence. They were also reassured that participation was totally voluntary and that it would have no detrimental effect on participants.

**Limitation of the study**

The study has a limitation in that it cannot be generalized, as the sample might not be fully representative because
of its use of multistage sampling drawn from the city of Assiut only.

**Statistical analysis**

Data entry and analysis were done using SPSS 14 statistical software package. For knowledge items, a correct answer was scored one and the incorrect zero. The scores of each section and for the total knowledge were calculated by simple addition. For total knowledge, a score of 60% or higher was considered satisfactory, and less than 60% was unsatisfactory. For quantitative data, the non-parametric Mann-Whitney and Kruskal Wallis tests were respectively used for comparisons of two and more than two means, as the assumption of normal distribution of the data could not be accepted. For categorical data, Pearson Chi-square test was used. To identify the independent predictors of the change in knowledge score, multiple linear regression analysis was used. The level of statistical significance was set at \( P<0.05 \).

The incorrect responses to each area were analyzed to identify the types of misconceptions. For the area of the definition of STDs, the responses were classified as definition according to rare consequences of STDs such as abortion, congenital anomalies; responses related to any other infections such as influenza; and irrelevant responses. In the definition of AIDS, the responses were classified into those related to late consequences of AIDS such as death; those expressing symptoms and signs of AIDS such as diarrhea, recurrent infections, and skin manifestations; and those related to transmission of other diseases such as sexual relations and blood. For the area of transmission of AIDS, the incorrect responses were classified into related categories such as the use of a patient’s belongings and rape; and phobias such as handshakes, swimming pools, sitting next to the patient, overcrowding, and sexual eroticism. In the area of prevention, the incorrect responses were classified into general preventive and personal hygiene measures not directly related to AIDS such as good nutrition, exercise, quitting smoking, handwashing, etc.; phobias as avoiding AIDS patients and not shaking hands or touching the patient; and irrelevant responses such as avoiding consanguineous marriage.

**RESULTS**

The socio-demographic characteristics of students in the study are shown in Table 1. Their mean age was 17.1 ± 0.8 years, with a range of 16 to 20 years. More than half of the sample were girls (57.0%), and lived in the rural areas (58.1%). Muslims were more than three quarters (77.9%). As regards parents’ education, 32.7% of the fathers and 56% of the mothers were illiterate, while only 6.3% and 2.4% had university education, respectively.

| Characteristics                     | No. (%) |
|-------------------------------------|---------|
| **Age (years)**                     |         |
| 16                                  | 121 (21.0) |
| 17                                  | 302 (52.5) |
| 18                                  | 111 (19.3) |
| 19-20                               | 41 (7.1) |
| **Mean ± SD**                       | 17.1 ± 0.8 |
| **Sex**                             |         |
| Boys                                | 247 (43.0) |
| Girls                               | 328 (57.0) |
| **Religion**                        |         |
| Muslims                             | 448 (77.9) |
| Christians                          | 127 (22.1) |
| **Residence**                       |         |
| Rural                               | 334 (58.1) |
| Urban                               | 241 (41.9) |
| **Father education**                |         |
| Illiterate                          | 188 (32.7) |
| Basic education                     | 266 (46.3) |
| Secondary/University                | 121 (21.0) |
| **Mother education**                |         |
| Illiterate                          | 322 (56.0) |
| Basic education                     | 184 (32.0) |
| Secondary/University                | 69 (12.0) |
| **Family size**                     |         |
| 1-4                                 | 52 (9.0) |
| 5-7                                 | 295 (51.3) |
| 8-9                                 | 228 (39.7) |
| **Mean ± SD**                       | 7.2 ± 2.5 |

Table 2 demonstrates low percentages of satisfactory knowledge at the pre-test. Meanwhile, statistically significant improvements in students knowledge were revealed after implementation of the educational program, \( P<0.001 \). The highest improvement was in the knowledge about STDs, but the improvement as regards the definition of AIDS was modest. Overall, less than one-third of the students had satisfactory knowledge at the pretest. This increased to slightly more than half of the sample in the posttest.

The relations between the mean scores of pre-intervention knowledge about AIDS and some socio-demographic characteristics of students are illustrated in Table 3. It is evident that Muslim students, and students who lived in the urban areas and who had mobile phones had statistically significantly higher scores of knowledge \( (P=0.037, 0.004, 0.038\) respectively). Other characteristics such as age groups, sex, parents’ education, and family size had no statistically significant relation with the score of knowledge.

Table 4 describes the changes in students’ knowledge and misconception about AIDS before and after the intervention. It points to statistically significant changes in all
areas. The most common pre-intervention misconception about definition of STDs was the definition according to transmission. At the post intervention phase, the most common misconception was in defining STDs according to their consequences. The most frequent misconception about definition of AIDS was defining it by transmission. This was noticed at both the pre and post intervention phases. A few (4.3%) had incorrect definitions and 53.4% had no idea what STDs were. After the intervention, the knowledge on STDs significantly improved to 77.2%. Although the “don’t know” category reduced to zero, the incorrect definition and misconceptions increased. As for transmission and prevention of AIDS, the table shows significant decreases in the misconceptions related to phobias.

In multivariate analysis [Table 5], the statistically significant independent predictors of the change in the knowledge score after the intervention turned out to be age, religion and the health education program. As evident from the beta coefficients, younger age and being Muslim were associated with higher knowledge score, in addition to the effect of the intervention program. Having access to internet had a positive impact on the knowledge score although its significance was borderline (P=0.065). The model explains 54% of the changes in knowledge score as indicated by the value of r-square.

### DISCUSSION

The present study showed that students of technical secondary schools in Assiut City do not have enough basic facts on AIDS. Only less than one-third of them had overall satisfactory knowledge about AIDS. Meanwhile, slightly more than half of the respondents were confident enough to mark “Don’t Know” in response to different questions.

### Table 2: Comparison of students’ knowledge scores on AIDS pre and post intervention

| Knowledge items       | Pre intervention | Post intervention | P-value (Chi square) |
|-----------------------|------------------|-------------------|---------------------|
| STDs definition       |                  |                   | <0.001              |
| Correct               | 243 (42.3)       | 444 (77.2)        |                     |
| Wrong/Don’t know      | 332 (55.7)       | 131 (22.8)        |                     |
| AIDS definition       |                  |                   | <0.001              |
| Correct               | 71 (12.3)        | 130 (22.6)        |                     |
| Wrong/Don’t know      | 504 (87.7)       | 445 (77.4)        |                     |
| AIDS transmission     |                  |                   | <0.001              |
| Correct               | 247 (43.0)       | 363 (63.1)        |                     |
| Wrong/Don’t know      | 328 (57.0)       | 212 (36.9)        |                     |
| AIDS prevention       |                  |                   | <0.001              |
| Correct               | 147 (25.6)       | 235 (41.9)        |                     |
| Wrong/Don’t know      | 428 (74.4)       | 340 (59.1)        |                     |
| Total knowledge       |                  |                   | <0.001              |
| Satisfactory          | 177 (30.8)       | 293 (51.0)        |                     |
| Unsatisfactory        | 398 (69.2)       | 282 (49.0)        |                     |

### Table 3: Relation between pre-intervention score of knowledge and some socio-demographic characteristic of students

| Characteristics       | Mean | SD  | P-value¹ |
|-----------------------|------|-----|----------|
| Age (years)           |      |     | 0.187    |
| 16                    | 2.7  | 1.5 |          |
| 17                    | 2.5  | 1.5 |          |
| 18                    | 2.7  | 1.6 |          |
| 19-20                 | 2.2  | 1.7 |          |
| Sex                   |      |     | 0.224²   |
| Boys                  | 2.49 | 1.49|          |
| Girls                 | 2.65 | 1.53|          |
| Religion              |      |     | 0.037²   |
| Muslims               | 2.7  | 1.5 |          |
| Christians            | 2.3  | 1.5 |          |
| Residence             |      |     | 0.004²   |
| Rural                 | 2.42 | 1.48|          |
| Urban                 | 2.79 | 1.53|          |
| Father education      |      |     | 0.68²    |
| Illiterate            | 2.6  | 1.5 |          |
| Basic education       | 2.6  | 1.5 |          |
| Secondary/University  | 2.7  | 1.6 |          |
| Mother education      |      |     | 0.098    |
| Illiterate            | 2.5  | 1.5 |          |
| Basic education       | 2.5  | 1.4 |          |
| Secondary/University  | 3.0  | 1.7 |          |
| Family size           |      |     | 0.063    |
| 1-4                   | 3.0  | 1.4 |          |
| 5-7                   | 2.5  | 1.5 |          |
| 8-9                   | 2.5  | 1.6 |          |
| Has mobile phone      |      |     | 0.038²   |
| No                    | 2.5  | 1.5 |          |
| Yes                   | 2.8  | 1.5 |          |

¹Kruskal Wallis test; ²Mann-Whitney test
Students’ perceptions of AIDS

The low level of correct knowledge revealed in the present study agrees with what has been found by many other investigators. For instance, a study in Calcutta, India, found that only 13.5% of the senior students had clear knowledge of AIDS, its general aspects, transmission and prevention.[13] Also, in a study of the awareness of school-going, unmarried, adolescents in rural India, slightly better knowledge (39.3% were aware of AIDS) was reported.[14]

However, other studies reported higher levels of knowledge about AIDS among adolescents. Thus, in Tanzania, the knowledge about HIV/AIDS and the mode by which the virus is transmitted was very high; 96% of the students who participated in the study had heard of the disease and

Table 4: Comparison of students’ misconceptions regarding AIDS in Assiut City, 2008, before and after the intervention

| Knowledge items                              | Pre intervention No. (%) | Post intervention No. (%) | P-value (Chi square) |
|----------------------------------------------|--------------------------|----------------------------|----------------------|
| Knowledge on STDs definition and causes      |                          |                            |                      |
| Correct                                      | 243 (42.3)               | 444 (77.2)                 | X²ₐₙₐₜ=65.00         |
| Misconceptions                               |                          |                            |                      |
| Defined according to rare STDs consequences  | 6 (1.0)                  | 26 (4.5)                   |                      |
| Confused with other infections               | 10 (1.7)                 | 0                          |                      |
| Irrelevant                                   | 9 (1.6)                  | 105 (18.3)                 |                      |
| Don’t know                                   | 307 (53.4)               | 0                          |                      |
| Knowledge on AIDS definition and cause       |                          |                            | X²ₐₙₐₜ=101.25        |
| Correct                                      | 71 (12.3)                | 130 (22.6)                 |                      |
| Misconceptions                               |                          |                            |                      |
| Defined according to late AIDS consequences  | 27 (4.7)                 | 44 (7.7)                   |                      |
| Defined according to AIDS symptoms/signs     | 11 (1.9)                 | 2 (0.3)                    |                      |
| Confused with modes of transmission of other diseases | 66 (11.5) | 155 (27.0)                 |                      |
| Don’t know                                   | 400 (69.6)               | 244 (42.4)                 |                      |
| Knowledge on AIDS transmission               |                          |                            | X²ₐₙₐₜ=65.00         |
| Correct                                      | 247 (43.0)               | 363 (63.1)                 |                      |
| Misconceptions                               |                          |                            |                      |
| Confused with other diseases transmission    | 13 (2.3)                 | 28 (4.9)                   |                      |
| Phobia                                       | 55 (9.6)                 | 21 (3.7)                   |                      |
| Don’t know                                   | 260 (45.2)               | 163 (28.3)                 |                      |
| Knowledge on AIDS prevention                 |                          |                            | X²ₐₙₐₜ=49.90         |
| Correct                                      | 147 (25.6)               | 235 (40.9)                 |                      |
| Misconceptions                               |                          |                            |                      |
| General not directly related to AIDS         | 37 (6.4)                 | 65 (11.3)                  |                      |
| Phobia                                       | 52 (9.0)                 | 35 (6.1)                   |                      |
| Irrelevant                                   | 1 (0.2)                  | 0                          |                      |
| Don’t know                                   | 338 (58.8)               | 240 (41.7)                 |                      |

Table 5: Best fitting multiple linear regression model for the score of knowledge about STDs among students

| Unstandardized coefficients                  | Standardized coefficients | t-test | P-value |
|----------------------------------------------|---------------------------|--------|---------|
| B                                            | Std. Error                | t-test | P-value |
| Constant                                     | 3.83                      | 1.66   | 2.304   | 0.022   |
| Age                                          | -0.23                     | 0.10   | -0.08   | 2.409   | 0.016   |
| Religion (reference: Muslim)                 | -0.57                     | 0.18   | -0.11   | 3.124   | 0.002   |
| Having access to internet                    | 0.64                      | 0.34   | 0.06    | 1.850   | 0.065   |
| Intervention (reference: pre)                | 3.16                      | 0.15   | 0.71    | 21.276  | <0.001  |

R² = 0.54, Model ANOVA: F = 117.49, P < 0.001, Variables excluded from model: sex, birth rank, parents educational years, family size, residence, having mobile phones
around 90% knew about the main modes of transmission. Moreover, it was reported that about 98% of the adult population in Tanzania were now aware of HIV/AIDS.\textsuperscript{[13]} Similarly, most adults in Arusha region in Tanzania had heard of AIDS, perceived it to be a major threat to their community, knew the main HIV routes of transmission, and also knew the ways in which the virus was not transmitted to others.\textsuperscript{[16]} In western countries, high levels of knowledge about AIDS were also reported. In Greece, a substantial percentage (72%) of young students aged 15 years demonstrated a satisfactory degree of knowledge.\textsuperscript{[17]}

There might be a number of reasons for the discrepancy between the results of the present study and some African and Western studies. The high level of knowledge in the African studies could be attributed to the high prevalence of AIDS in these countries, which in turn would increase the level of awareness in the community. In this regard, in a study among adolescents in Nigeria, many respondents stated that they had heard enough about AIDS, and that they did not want to hear any more. Most of the respondents had correct knowledge about the etiology and mode of transmission of AIDS.\textsuperscript{[12]}

On the other hand, the high level of knowledge in Western and developed countries could be attributed to higher levels of education and awareness of health matters as well as the less conservative attitudes towards sex-related issues. Therefore, it has been emphasized that when the youth are empowered with knowledge on HIV there was an increase in the prevention of HIV/AIDS, as occurred when a number of youth clinics focusing on the prevention of STD were opened in various parts of Sweden.\textsuperscript{[18]} Moreover, these authors suggested that the present syllabi for specific subjects on biology, with knowledge on biological sexual functions, contraceptive methods and STDs could be directly related to education of sexuality.

In addition to the very obvious lack of knowledge of the definition of AIDS, its causes and risk factors, transmission, and prevention, the present study revealed high percentages of related misconceptions. The most common misconceptions were related to fears and phobias, convictions and intolerance, and obsessions related to transmission, e.g. through handshakes or eating with patients, or airborne. Similar misconceptions about the transmission of HIV/AIDS such as the use of public places, food, clothing and insect bites were reported in previous studies.\textsuperscript{[4,19-21]}

According to the present study, one of the misconceptions on STDs and AIDS expressed by many students was the definition of these diseases according to their consequences, including such serious outcomes as death. This might reflect their intolerant attitude and their religious beliefs that these diseases are the results of acts of sin that deserve punishment. This is in agreement with the study in rural Kenya that found that for about 80% of respondents ‘death’ or ‘fear’ represented their image of AIDS.\textsuperscript{[22]} In the same vein, fear and intolerant attitudes toward these diseases were found to be prevalent among students in the United Arab Emirates.\textsuperscript{[14]}

Meanwhile, the findings of the present study revealed statistically significant improvements in all studied areas of knowledge related to AIDS. This was further confirmed through multivariate analysis. However, the improvement was less marked in relation to the definition of AIDS. This might be explained by the fact that students insisted on defining AIDS according to its serious complications. Nonetheless, the results indicate a positive impact of the intervention program on students’ knowledge. The importance of such interventions has been highlighted in the literature. In this regard, a positive impact of an intervention program on HIV/AIDS was reported in Mashhad, Iran. The authors there emphasized the role of the Ministry of Health and Medical Education and the Ministry of Education in increasing AIDS awareness, especially among high-risk groups like students, prisoners and intravenous drug users, by organizing national and provincial teams and task forces and working in collaboration with such international organizations as WHO Regional Office for the Eastern Mediterranean, UNAIDS and the United Nations Population Fund.\textsuperscript{[23]}

In the same vein and in agreement with the present study findings, a sexual health course offered in an intervention study had a positive impact in increasing attendants’ knowledge and changing their attitudes towards sexual issues.\textsuperscript{[24]} Similarly, peer education in rural areas was shown to be effective in HIV/AIDS prevention and influenced the knowledge and behavior positively.\textsuperscript{[19]}

From another perspective, it was noticed that the intervention program in the present study had no real positive impact on the misconceptions the students had on defining STDs and AIDS according to their consequences. These misconceptions even increased at the expense of the "Don't Know" category. The finding means that the students who had no knowledge before the intervention reverted to this misconception based on the deeply rooted religious beliefs after the intervention. Therefore, the change of such attitudes towards these diseases needs other approaches that target cultures, beliefs, and traditions.

On the other hand, there was a significant improvement on the misconceptions on phobias on transmission and prevention of AIDS after the implementation of the
health education program. The findings of this present study are quite plausible since phobias usually arise from deficient or incorrect knowledge. This is in consonance with Kemppainen et al (1996)[26] who emphasized that fear about transmission of AIDS have been attributed to the lack of proper knowledge about HIV and its transmission routes. In the same vein, Nwokocha and Nwakoby (2000)[22] mentioned that the result of lack of knowledge about AIDS among secondary school students in Nigeria was created by the fear of unknown.

Multivariate analysis of the present study data revealed that younger age was independently associated with higher knowledge score. The finding could be attributed to recent changes and trends whereby there is more discussion of the issue in the media, in addition to the increased use of internet by the younger generations. A similar effect of age on knowledge and awareness of AIDS has been previously reported with the same trend indicating that younger people had more knowledge in comparison with older people.[19,20-28] However, Hedayati-Moghaddam (2008)[21] could not demonstrate any statistically significant difference in the knowledge level among different age groups of the students in Iran. Moreover, Ramazankhani et al. (2004)[26] in Thailand found that older students had better knowledge than younger ones.

Another statistically significant independent predictor of the knowledge score of students in the present study was religion. It was found that the Muslim students had higher scores of knowledge than Christians in multivariate analysis. This difference could be related to different degrees of openness in discussing sex-related issues. The finding is in agreement with Klepp et al. (2004)[16] in their study in Tanzania, which found that Muslims scored higher on knowledge than Christians did. The authors attributed this to differences in the educational efforts between local mosques and churches. Furthermore, they found a relationship between strong religious beliefs and low knowledge of AIDS.

CONCLUSION AND RECOMMENDATIONS

In the light of the findings of the present study, it is concluded that the students of secondary technical schools in Assiut city were deficient in knowledge and had a lot of misconceptions on AIDS. The educational intervention had a positive impact on their knowledge, but a less marked effect on misconceptions. The knowledge was affected by age and religious belief. The findings point to the need for more programs on health education tailored to needs, and approaches that are suitable for the cultural values of the communities. National endeavors are recommended to boost the contents of school curricula related to reproductive health in order to fill the gaps in the knowledge that underlies most of the misconceptions.

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