

Effect of Educational Guidelines on Knowledge of AIDS and its Preventive Practice among Non-medical Undergraduate University Students

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Abstract: Acquired immune deficiency syndrome (AIDS), can be defined as an infectious and fatal disease of the twentieth century, and caused by human immunodeficiency virus (HIV). **The study aims to** evaluate the effect of educational guidelines on knowledge of AIDS and its preventive practice among non-medical undergraduate students. A true experimental pre-test-post-test research design with the control group was utilized in this study. **Sampling Technique:** Using purposive sampling, sixty students of College of Education, (thirty for each study and control group) between eighteen to twenty two years of age enrolled in third and fourth level female students had been participated in the study. Records had to be were gathered the use of an established self-administered questionnaire. **Results:** 83.3% of the study group and seventy percent of the control group were aged between eighteen to twenty years old, single and all of them were females. The mean general knowledge score about AIDS in the study group was increased from 7.47 ± 2.44 in pretest to 14.5 ± 2.1 in posttest with significant improvement was observed at p -value < 0.001 . The mean knowledge score about AIDS preventive methods in the study group was increased from 5.70 ± 2.72 in pretests to 19.53 ± 0.86 in posttest with significant improvement was observed at p -value < 0.001 . **Conclusion & Recommendations:** The study indicated that the educational guidelines have improved the knowledge and preventive practices on AIDS. Including in the educational curriculum about health education on AIDS/ HIV infection, which need lifestyle modifications in the current modern life.

Key Words: AIDS, Educational guidelines, Knowledge and preventive practice.

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I. Introduction

HIV/AIDS is an international health problem [1]. Regardless of development in diagnosis, treatment, and prevention, HIV/AIDS is closing a critical public health challenge [2]. The World Health Organization reported that ten million and three hundred thousand youth aged fifteen to twenty-four years are living with HIV/AIDS (most without knowing that they are infected) and half of all new infections are going on between young people on an international basis [3]. In 2014, 34.3 million people had been infected with HIV, including 17.4 million women and 2.6 million children [4]. There had been 1.8 million new cases and one million deaths. The World Health Organization Middle East and North Africa (MENA) vicinity has the 1/3 quickest growing AIDS epidemic [2].

Young people (ten to twenty-four years) and adolescents (ten to nineteen years), particularly younger ladies key populations, remain disproportionately suffering from HIV [5]. There is growing HIV prevalence within the younger age groups, as well as, persistent low awareness, knowledge and competencies (e.g. 9% of Young Women aged fifteen to twenty-four years are sufficiently knowledgeable about HIV and AIDS is only two percent in Yemen, three percent in Iraq and Egypt, five percent in Palestine, six percent in Jordan and Syria, and eight and a half percent in Sudan); increase in hazards behavior, especially among youth; and, limited availability, get admission to, and usage of adequate youth pleasant offerings and commodities (e.g. % of young women aged fifteen to twenty-four years who have been tested for HIV in the last one year and who know their results is 0.2% in Qatar, 0.5% in Tunisia, and 1.6% in Algeria) [3].

There are numerous factors that placed young people at an elevated threat of HIV. Adolescence and early adulthood is a crucial duration of development when significant physical and emotional changes occur [6]. Adolescents and young humans have growing personal autonomy and responsibility for his or

her personal health. The transformation from childhood to adulthood is also a time for discovering and searching for peer relationships, gender norms, sexuality and monetary obligation [7]. It is far mainly crucial that any regional group particularly liable to HIV should have adequate knowledge about the disease so that they can help to protect themselves against viable dangers. [8]

Despite the reality that teens inside the UAE are surprisingly well educated, with 80% persevering with higher education, many of them nonetheless have inadequate data on HIV. An extra latest study carried out in Ajman (UAE) in 2013 investigated dental student's knowledge about modes of transmission of HIV/AIDS and their attitudes towards sufferers who dealing with them [8]. Results also showed that students' overall knowledge score was only sixty-seven percent and that they had high levels of negative attitudes towards human beings with HIV.

Although, many young humans do not attain adequate HIV and sex education. Different factors are relevant to understanding danger, prevalence and understanding of HIV/AIDS in KSA. Saudi Arabia is a conservative Islamic society. There may be a loss of public health education and in-school education on matters related to HIV/AIDS. It may be taboo to talk about danger factors which include sexual practices and injected drug use. [9]

Schools have the ability to offer particular education on HIV and AIDS. Young people have the capability to be great peer educators and to assist in the design of HIV-related services and educational programs.[10] Technology and social media are consistently being proved as powerful methods to engage young people in sharing HIV knowledge.

A formerly-conducted study suggests that younger people have insufficient knowledge of HIV/AIDS. Opportunities to obtain knowledge about HIV, AIDS and sexual health are extremely restrained for young people. Young people are rapid, progressive, innovative and creative when it comes to solving problems and finding solutions. [11]

Expanded efforts may be had to keep away from new infections amongst young people from rising. That is due to the fact, though the development in lowering the HIV incidence rate among young people is maintained, the estimated number of new HIV infections among adolescents is projected to climb to 270,000 annually by 2025 and three hundred thousand annually by 2030. If development were to slow, these numbers could climb even higher. [12]

Engaging younger people is a key to defensive their health and addressing the HIV epidemic as an entire. Allowing young humans to be meaningfully engaged in the incorporated HIV programs. Educational institutes are to be held accountable for improving the young people's knowledge, awareness and health practices about HIV/AIDS. [13] Universities have a responsibility to proactively enable more accessible interactions and educational program on HIV/AIDS among young adults who are students that prevent transmission of HIV/AIDS and enable the young adults to keep appropriate decisions in regard to keeping far away from getting infected with HIV/AIDS. [18]

Educational guidelines can decrease the overall costs of healthcare by preventing expensive complications of infectious illnesses. So the implementation of Health Education is still the best mean for combating the disease, and it remains the key to AIDS prevention and control [14]. College students represent a dynamic and surprisingly knowledgeable group in the society, and they are anticipated to play an essential role in limiting the spread of HIV/AIDS and promoting the health education about HIV/ AIDS in the country, so this study aimed to assess their knowledge about preventive and control measures of HIV/AIDS [15, 19].

The aim of the study:

The study aimed to evaluate the effect of educational guidelines on knowledge of AIDS and its preventive practice among non-medical undergraduate students

Objectives of Study

1. To assess the level of knowledge about AIDS among non-medical undergraduate students.
2. To assess the safe preventive practice of AIDS among non-medical undergraduate students.
3. To evaluate the effectiveness of Educational guidelines on Knowledge of AIDS and its preventive practices among non-medical undergraduate students

Operational definitions of Keywords:

1. **AIDS:** an acquired immune deficiency syndrome caused by infection with the human immunodeficiency virus (HIV).
2. **Educational guidelines** refer to a systematically arranged teaching program focusing on Knowledge & preventive practices regarding HIV/AIDS provided by means of instructional aides.

3. **Knowledge and preventive practices** refer to the awareness and familiarity regarding HIV/AIDS and its preventive practices, which is measured by using a structured, self-administered questionnaire which was prepared in the Arabic language.

II. Methodology

Research Hypothesis:

H1. The study group will have a higher mean knowledge score about HIV/AIDS than the control group.

H2. There will be an improvement in knowledge level as well as preventive practice about HIV/AIDS after implementing educational guidelines among study group than before implementation

Research Design: True experimental pre - posttest research design with the control group was utilized in this study. The independent variable was educational guidelines and dependent variables were knowledge of AIDS and its preventive practices.

Sampling Technique: Using convenient sample, sixty students at College of Education, Kindergarten department divided into two equal groups, study and control (thirty for each) with the following inclusion criteria: females between eighteen to twenty two years of age enrolled in third and fourth level in the study.

Setting: The study was carried out at a classroom in the college of education, Department of kindergarten, at Hayeret branch, Hail University, Kingdom of Saudi Arabia.

Tools of Data Collection: Data needed for the study were collected by using a structured, self-administered questionnaire which was prepared in the Arabic language after reviewing the literature and adopted with modification from (Mahindra, et al, 2007) [20] regarding the students' knowledge and practices toward the HIV/AIDS. The questionnaire consisted of five parts with a total of fifty nine items. **Part I** Includes students' personal profile such as age, marital status, and academic level. **Part two** contained twenty one questions to assess students' General knowledge regarding HIV/AIDS and its clinical manifestations. **Part three** consisted of sixteen questions to assess students' knowledge about AIDS transmission methods. **Part four** contained twelve questions to assess students' knowledge about preventive methods from AIDS. **Part five** contained seven questions related to health practices toward AIDS. The responses to all assessment questions were yes, no or don't know.

Scoring: Each right answer got one score with a total score of fifty six for the fifty six questions. An inadequate knowledge is considered when students had less than sixty percent while a satisfactory knowledge was given to those who obtained sixty percent or more.

Data collection procedure

1. Assessment Phase:

- a. **Administrative stage:** Official permissions of data collection and implementation of the study conducted in the classroom in the college of education, Department of kindergarten, at Hayeret branch, Hail University, Kingdom of Saudi Arabia was obtained to facilitate and carry out this study. Oral consent has been obtained from the participants who were involved in the application of the study.
- b. **For Protection of Human Rights:** The researchers gave clear and simple rationalization of the study nature and its anticipated results to the students and knowledgeable approximately the privateness in their information, the study was voluntary and harmless.
- c. The data collection instrument has been revised by a panel of five professionals in the field of medical-Surgical nursing to examine the content validity and concerning to their review; few modifications were carried out in the content. The questionnaire was given to the students in the classroom. The interview consumed from twenty to thirty minutes for each student.
- d. **A pilot study:** The pilot study executed on ten percent of students (six nurses) to test the study tools for clarity, applicability and time consumed.
- e. A pretest was held with the questionnaire, for both study and control group.

2. Implementation Phase:

- a. At the initial interview, the researcher introduces herself to provoke line of verbal exchange, give an explanation for the nature and cause of the study.
- b. Educational sessions were held on AIDS transmission, prevention and Health practice by a series of lectures, four hours per week over a period of two weeks combined with active group participation of the study group. Educational materials used were; a brochure, videotape, powerpoint presentations and group discussion.

c. The researcher answers any questions and gave feedback. Communication channel was kept open between the researcher and the students.

3. Evaluation Phase:

Posttest was given to both groups immediately after an intervention. Two weeks later a follow-up test was given to both groups using the same questionnaire

Ethical Consideration:

An official permission was taken from the director of the AlHayeet branch, Hail University. The researcher met the students who fulfilled the inclusion criteria and written consent was taken. The questionnaire was given to the students in the classroom. The interview consumed about half an hour for each student.

III. Results

Demographic data reveals that 83.3% of the study group and 70% of the control group were aged between 18-20 years old. According to marital status; 70% of the study group and 86.7% of the control group were unmarried. All the participants were females (n= 60) and all were on the same level of education. The mean general knowledge score about AIDS in the study group was increased from 7.47±2.44 in pretest to 14.5±2.1 in posttest with significant improvement was observed at p-value <0.001. At pretest there was no significant distinction between the study group and control group and the p1 value was 0.61. While At posttest there was a significant distinction between study and control group the mean score was 14.50± 2.11 and 7.8 ± 2.59 respectively and the p2 value was <0.001* significant. At follow up test there was a significant distinction between study and control group the mean score was 13.2 ± 2.02 and 7.8 ± 2.59 respectively and the p3 value was <0.001* significant.

Table (1): Comparison of overall Satisfactory general knowledge scores about AIDS among the studied Groups

Items	Study group (n = 30)			Control group (n = 30)			P ₁	P ₂	P ₃
	Pre	Post	Follow up	Pre	Post	Follow up			
	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.			
General knowledge about AIDS	7.47 ± 2.49	14.50± 2.11	13.2 ± 2.02	7.8 ± 2.59	7.8 ± 2.59	7.8 ± 2.59	0.61	<0.001*	<0.001*
P-value	<0.001*			<0.001*					

P value for **repeated measures test** for comparing between pre and post in each group P1 **Student t-test** for comparing between groups in the pre-test, P2 between groups in post-test, P3 between groups in follow-up. *: Statistically significant at p ≤ 0.05.

Table (2): Comparison of overall Satisfactory general knowledge scores about Mode of AIDS transmission among the studied Groups:

Items	Study group (n = 30)			Control group (n = 30)			P ₁	P ₂	P ₃
	Pre	Post	Follow up	Pre	Post	Follow up			
	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.			
Mode of AIDS transmission	4.97 ± 3.55	7.93 ± 0.78	7.80 ± 1.30	6.63 ± 2.04	6.63 ± 2.04	6.63 ± 2.04	0.03*	0.002*	0.001*
P-value	<0.001*								

P value for **repeated measures test** for comparing between pre and post in each group P1 **Student t-test** for comparing between groups in the pre-test, P2 between groups in post-test, P3 between groups in follow-up. *: Statistically significant at p ≤ 0.05.

In table 2, the mean knowledge score about AIDS mode of transmission in the study group was increased from 4.97 ± 3.55 in pretests to 7.93 ± 0.78 in posttest with significant improvement was observed at p-value <0.001. At pretest, there was a significant distinction between the study group and control group the mean score was 4.97 ± 3.55 and 6.63 ± 2.04 and the p1 value was 0.03*. At posttest, there was a significant distinction between the study group and the control group the mean score was 7.93 ± 0.78 and 6.63 ± 2.04 respectively and the p2 value was <0.001* significant. At follow up test there was a significant distinction between intervention and control group the mean score was 7.80 ± 1.30 and 6.63 ± 2.04 respectively and the p3 value was <0.001* significant.

Table (3): Comparison of overall Satisfactory knowledge scores about AIDS prevention methods among the studied Groups

Items	Study group (n = 30)			Control group (n = 30)			P ₁	P ₂	P ₃
	Pre	Post	Follow up	Pre	Post	Follow up			
	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.			
AIDS preventive methods	5.70 ± 2.72	19.53 ± 0.86	18.27 ± 3.83	7.90 ± 2.78	7.90 ± 2.78	7.90 ± 2.78	0.03*	<0.001*	<0.001*
P-value	<0.001*								

P value for **repeated measures test** for comparing between pre and post in each group P1 **Student t-test** for comparing between groups in the pre-test, P2 between groups in post-test, P3 between groups in follow-up. *: Statistically significant at p ≤ 0.05.

In table 3, the mean knowledge score about AIDS preventive methods in the study group was increased from 5.70 ± 2.72 in pretests to 19.53 ± 0.86 in posttest with significant improvement was observed at p-value <0.001. At pretest, there was a significant distinction between the study group and control group the mean score was 5.70 ± 2.72 and 7.90 ± 2.78 and the p1 value was 0.03*. At posttest, there was a significant distinction between study and control group the mean score was 19.53 ± 0.86 and 7.90 ± 2.78 respectively and the p2 value was <0.001* significant. At follow up test there was a significant distinction between the study group and control group the mean score was 18.27 ± 3.83 and 7.90 ± 2.78 respectively and the p3 value was <0.001* significant.

Table (4): Comparison of overall Satisfactory general knowledge scores related to health practice among the studied Groups

Items	Study group (n = 30)			Control group (n = 30)			P ₁	P ₂	P ₃
	Pre	Post	Follow up	Pre	Post	Follow up			
	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.			
Knowledge related Health practice	4.03 ± 2.36	6.67 ± 0.61	6.40 ± 1.48	3.10 ± 1.52	3.10 ± 1.52	3.10 ± 1.52	0.07	<0.001*	<0.001*
P-value	<0.001*								

P value for **repeated measures test** for comparing between pre and post in each group P1 **Student t-test** for comparing between groups in the pre-test, P2 between groups in post-test, P3 between groups in follow-up. *: Statistically significant at p ≤ 0.05.

In table 4, the mean knowledge score about health practice in the study group was increased from 4.03 ± 2.36 in pretest to 6.67 ± 0.61 in posttests with significant improvement was observed at p-value <0.001. At pretest there was no significant distinction between the study group and control group and the p1 value was 0.07. At posttest, there was a significant distinction between study and control group the mean score was 6.67 ± 0.61 and 3.10 ± 1.52 respectively and the p2 value was <0.001* significant. At follow up test there was a significant distinction between study and control group the mean score was 6.40 ± 1.48 and 3.10 ± 1.52 respectively and the p3 value was <0.001* significant.

IV. Discussion

Awareness is the first key factor to enhance the knowledge related to health practices in order to prevent infectious diseases. For this reason, developing awareness among the college students is as one of the critical aspects.

Demographic data of the present study reveals that the majority of the study group and of the control group students was aged between eighteen to twenty years old, single, females, and has the same level of education. These results were in the same line with **Ihuwan [23]** who reported that "nearly one quarter of participants were male and three quarters were female. Ages of participants ranged from twenty to twenty five years old".

The present finding showed the positive effect of educational guidelines among study group as evidenced by the increased in the mean score of their general knowledge about AIDS from 7.47 ± 2.44 in pretest to 14.5 ± 2.1 in posttest with statistically improvement ($p < .001$). This finding confirms H1, the study group will have obtained greater mean knowledge scores about HIV/AIDS than the control group. This finding was agreeing with **Peyman & Jangi [16]** who study on the effect of educational intervention on knowledge, attitude, and performance of high school girl students about AIDS, and confirmed that the mean score of contributors' knowledge about HIV extended from 16.8 ± 3.8 to 24.5 ± 3.1 .

Also, [26] reported that "confined cognizance on HIV/AIDS, lack of sufficient records on HIV/AIDS (even inside colleges and universities) and the reluctance of public health policymakers to perform country wide HIV focus programs because of the low country wide prevalence of the disease inside the UAE, sensitivity the topic and cultural barriers all play a role inside the findings of this study". This finding was disagreeing with Asante & Oti-Boadi [24] who reported "The data in the present study indicated an inconsistent level of HIV knowledge among undergraduate students in Ghana. Although the majority of students heard about HIV/AIDS, could identify the transmission methods and preventive measures, they were less knowledgeable about the causative agent of AIDS".

Also, the effectiveness of the present educational guidelines was shown by the increased in the mean score of the study group's knowledge related to health practice from 4.03 ± 2.36 in pretest to 6.67 ± 0.61 in posttest with statistically significance improvement ($p < 0.001$) compared to the control group mean score 3.10 ± 1.52 . This finding confirms H2, There will be an improvement in knowledge level as well as preventive practice about HIV/AIDS after implementing educational guidelines among study group than before educational guidelines implementation. These results are in context with the study (21) conducted in Cairo University, Egypt showed a significant improvement in the general knowledge about AIDS in two group (under graduated and post graduated) after a health education intervention program. Pre-intervention mean score was 7.29 and the post-intervention mean score was 8.01. The study conducted by **Nanayakkara and Eun-Ok Choi (22)** showed that statistically significant improvement of AIDS knowledge with p -value < 0.001 of post-test results of the study group compared to the control group.

Additionally [27] was in the same line as reported that "Before the intervention, the high school students had a higher level of knowledge about HIV/AIDS than the middle school students, with statistically significant distinctions except in three questions, namely, "AIDS is an infected disease" ($P=0.0620$), "AIDS can be prevented" ($P=0.1263$), and "HIV can be transmitted by Breast milk" ($P=0.5039$). After the intervention, both the middle and high school students showed an increased rate of awareness. After our intervention, the middle school students achieved the same basic medical and transmission mode level of knowledge as the high school students, except in relation to the question on the non-transmission part. The results of the study suggest that the high school students understood the contents of the educational materials because they had learned some relevant knowledge from their biology lessons and from other relevant curriculums. The contents of our intervention substances can be richer and deeper for high faculty college students within the future".

The present study showed that Educational guidelines have been effective in promoting the level of awareness on modes of HIV / AIDS transmission. The mean score increased from 4.97 ± 3.55 in pretest to 7.93 ± 0.78 in the posttest. A majority of the study group in this research gave a correct response with an increase in the post and follow up phase of Educational guidelines about AIDS transmission methods. In this regard, the study [19] reported that short time educational program can improve the health practices and [18] finding of the study strongly evidenced that there is a critical need to enhance the knowledge on HIV/ AIDS between young people.

Also, [25] revealed that "Giving school students teaching sessions about AIDS may be most effective when carried out within a more comprehensive school health education program that establishes a foundation for understanding the relationships between personal behavior and health.. It may also have greater impact when they have opportunities to develop such qualities as decision-making and communication skills, resistance to persuasion, and an experience of self-belief and self-esteem. However, education about AIDS ought to be supplied as rapidly as possible, even if it's far taught to start with as a separate subject"

V. Conclusion & Recommendations

This study confirmed the success of the educational guidelines in improving the general knowledge and knowledge related to health practice among the study group with the varied level of significance. Some misunderstanding about HIV/AIDS has been corrected through the health education intervention, as detected by the improved correct response rates. In general, the society has some knowledge about AIDS, but the results of this study helped to correct some misconceptions about AIDS among non-medical undergraduate students. Thus it emphasizes the need for including in the educational curriculum about health education on AIDS/ HIV infection, which need lifestyle modifications in the recent advanced life.

Limitation of this study: Sample size and research on female students in a closed and reserved society are the greatest limitations of the present study. So we suggest educational interventions for University students more broadly and with a greater sample size in all male and female.

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