


## RESEARCH ARTICLE

## IMPACT OF EDUCATION ON KNOWLEDGE AND ATTITUDES TOWARDS HUMAN IMMUNODEFICIENCY VIRUS AMONG MEDICAL AND TECHNICAL STUDENTS IN AL-AFAQ COLLEGE OF SCIENCE, SANA'A CITY, YEMEN.

Nousiba L. Jaml <sup>1,\*</sup> , Hussein M. Kolaise <sup>2</sup>, Amal J. Al-Farran <sup>3</sup>, Hanan N. Serri <sup>4</sup>, Ahmed A. Amer <sup>4</sup>, Anas A. Tais <sup>4</sup> and Abdalaziz Y. Yagowb <sup>4</sup>

<sup>1</sup> Dept. of Biology, Faculty of Science, University of Sana'a, Sana'a, Yemen

<sup>2</sup> Faculty of Medicine & Health Sciences, University of Aden, Aden, Yemen

<sup>3</sup> Ministry of public health & population primary health care sector National ADIS program, Sana'a, Yemen

<sup>4</sup> Al-Afaq Collage for Medical & Technical Sciences, Sana'a, Yemen

\*Corresponding author: Nousiba L. Jaml E-mail: [n.jamel@su.edu.ye](mailto:n.jamel@su.edu.ye)

Received: 29 April 2021 / Accepted: 26 May 2021 / Published online: 28 June 2021

### Abstract

Acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV). . HIV is a sexually transmitted infection (STI), it suppress the immune system and interferes with the ability of body to fight against infection and disease. There's no cure for HIV/AIDS, but medications can dramatically slow the progression of the disease. These drugs have ability to reduce AIDS deaths in many developed nations. A number of knowledge, attitude, and practice studies conducted in different parts of world reveal widespread misconceptions about the disease among young people .Medical students are the budding doctors of tomorrow and have just entered the noble profession. Thus, there is a need to assess impact of education on knowledge and attitudes towards HIV/AIDS among students. The results of this study showed that the education had an effect on the students who participating; It also helped increase knowledge and change misconceptions about the disease.

**Keywords:** Acquired immunodeficiency syndrome, Human immunodeficiency virus, Knowledge, Attitudes.

### 1. Introduction

Acquired immunodeficiency syndrome (AIDS) is a fatal illness caused by a retro virus known as the human immunodeficiency virus (HIV) which breaks down body's immune system, leaving the victim vulnerable to a host of life-threatening opportunistic infections, neurological disorders, and unusual malignancies [1]; and it's a devastating condition which is alarmingly progressing globally [2]. HIV/AIDS has become a major public health concern because half of new infections happening in young people [3].

Globally, HIV is one of the main problems with regard to public health and, this infectious disease is the fourth cause of mortality in the world [4-11]; despite progress in diagnosis, treatment, and pre-vention, but HIV/AIDS is still a serious public health challenge [5], especially in the youth category.

As mentioned in several studies [2,11,13,15]; the important methods of transmission of HIV by intravenous

drug use, sexual contact, blood transfusion, and mother to child transmission.

Currently; with modern antiretroviral therapy HIV related mortality has been reduced significantly; and quality of life of affected patients has dramatically improved. Highly active antiretroviral therapy (HAART) contributes to reduced risk of perinatal transmission, in addition to reduce the general risk of transmission [5].

The number of cases reported in Yemen, according to the National Program for Combating AIDS in Yemen, until September 2020, approximately 312 cases (209 males, 103 females).

In 2020; Leyva- Moral, et al., [6] in Spain; found that, Knowledge deficiencies about HIV were persist, incorrect beliefs were common, and attitudes appear to be influenced by culture. The correlation between subscales justifies continued research to implement targeted interventions. Education about HIV/AIDS can address knowledge deficits while structured interactions with

people living with HIV (PLHIV) can facilitate experiential learning.

On the other hand, Alawad, et al.; [7]; in their study in Saudi Arabia; stated that there were a modest level of HIV knowledge and negative attitudes toward people were living with HIV; and their study identified the main knowledge gaps in the transmission and prevention of HIV .

Joshi, et al., [1] also in India their study reported there was Knowledge about and attitude towards HIV/AIDS among first year medical students and their results was the 97 students who participated, 52 were males and 45 were females; and they also reported that, Though the general level of knowledge of students about HIV/AIDS was not poor, they had a number of misconceptions about it. .

In another study in Bangladesh; it concluded that the interventions particularly by the training program was helped to increase HIV/AIDS knowledge among students and positively change the students' attitudes towards HIV/AIDS [8].

Also study in Nepal, about Knowledge, attitude and perception regarding HIV/AIDS; and it concluded that there were many misconceptions about the route of transmission and significant knowledge, attitude and perception gaps [14].

In similar studies by Al-Rabeei et al., in Yemen, and they reported there was a moderate level of knowledge among students in Sana'a health institutes, and a number of misconceptions and negative attitudes toward HIV/AIDS were common; and they recommend in their study There should also be a big push to increase education about HIV/AIDS in educational institutes [16].

Current study tried to know the Impact of education on Knowledge and Attitudes towards HIV/AIDS among Al-Afaq College students, in Sana'a city; because the understanding, knowledge levels and attitudes toward HIV/AIDS is an important component to design adequate and culturally appropriate awareness and prevention programs to the community. Therefore, this study focuses on the Impact of education on Knowledge and Attitudes towards HIV/AIDS among Students at in Al-Afaq College of Medical and technical Science, Sana'a city, Yemen,

### Study Question:

Does the education have impact to promote the knowledge, attitude and awareness level among student regarding HIV/AIDS?

## 2. Experimental Section

### 2.1. Study Design

The design of current study is a Cross-sectional study, it was conducted on 200 students who were randomly selected form in Al-Afaq College of Medical and technical Science in Sana'a city, Yemen, within January to March 2021.

Ethical Considerations:

Respondents will have rights to refuse and withdraw from the study, any time will accept.

Confidentiality and Privacy of the respondents will be maintained.

### 2.2. A questionnaire and Data Collection:

A questionnaire comprising 20 statements and questions commonly used for testing student the participants' HIV/AIDS knowledge, perceptions, attitudes and beliefs was used. Each statement and question had three options, namely "Yes, No Don't know".

Participants were asked to tick whatever option they thought was true of their HIV/AIDS knowledge. For confidentiality purposes, respondents were advised not to write their names.

The questionnaire contained 18 questions regarding the general information about HIV, transmission routes, personal opinions, preventive measures, and public behavior towards the HIV-infected patients.

After receiving the questionnaires from the students participating in the study, we did a detailed explanation about HIV and AIDS and transmission methods of AIDS, and we tried to correct the misconceptions of the students. This included a 60-minutes interactive discussion on the preventive strategies and transmission methods of AIDS. The questionnaire was distributed again to evaluate the participating students before and after an educational programme

## 3. Results & Discussion

### 3.1. Socio-demographic characters:

**Table 1:** Socio-demographic characters of participating students

Variable	Frequency	Percent%
<b>Gender of the participants' students</b>		
Male	63	31.5%
Female	137	68.5 %
<b>Age of the participants' students</b>		
16-20	120	60%
21-25	74	37%
26-30	6	3%

As shown in Table 1 the information about the socio-demographic of the respondent that, was 64 (31.5%) male and 137 (68.5%) female; the age groups of the students, 120 (60%) were age 16-20 years, 74 (37%) were age 21-25 years, and only 6 (3%) were age 26-30 years

It is normal for the ages of the students participating in this study to be (16-20 years) because the participating students are all from the first level.

As mentioned in Tee & Huang [9], the social and economic impact of HIV/AIDS is intensified by the fact that it affects primarily young and middle-aged adults who are in their peak productive and reproductive years; therefore, these age groups were targeted in this study.

Thus, educational program at youth is likely to yield best results, as they are one of the major high risk groups in the community.

### 3.2. Impact of education on Knowledge and Attitudes towards HIV/AIDS

**Table 2:** Impact of education on Knowledge and Attitudes towards HIV/AIDS before and after education.

Questions provided on the survey	Before education			After education		
	Correct answer %	Wrong answer%	I don't know	Correct answer %	Wrong answer%	I don't know
<b>General knowledge about HIV/AIDS</b>						
Is AIDS caused by a virus	89%	11%	0 %	100%	0 %	0 %
There is a vaccine against HIV infection	85%	10%	5%	100%	0 %	0 %
Is there a treatment cure for AIDS?	91%	4%	5%	100%	0 %	0 %
An AIDS patient can live years without symptoms	70%	21%	9%	100%	0 %	0 %
A carrier of the AIDS virus can be known by its external appearance	60%	24%	16%	100%	0 %	0 %
<b>The participants' knowledge of Modes of transmission about HIV/AIDS:</b>						
Does HIV transmit through sexual relations only	81.5%	18.5%	0%	100%	0%	0%
Does HIV transmit by sharing needles/syringes with infected persons	78 %	22%	0%	100%	0%	0%
Does HIV transmit from infected mother to her baby by feeding	60%	25%	15%	98%	2%	0%
Does HIV transmit by shaking hands & kissing	49.5%	42%	8.5%	95%	5%	0%
Does HIV transmit through infected person cough/sneeze	84%	12%	4%	98%	2%	0%
Does HIV transmit through sharing food utensils with an infected person	69%	25%	6%	100%	0%	0%
Does HIV transmit through mosquito's bites	78%	21%	1%	100%	0%	0%
Does HIV transmit through touching the blood of an infected person	88%	9%	3%	92%	7%	1%
Does HIV transmit through Bathroom toilets	71.5%	20%	8.5%	90%	10%	0%
<b>The participants' attitude about HIV/AIDS</b>						
Do you think A child with AIDS is not entitled to an education	20%	76%	4%	88%	12%	0%
Do you think HIV patients should be isolated from the community	10%	88%	2%	69%	31%	0%
Do you think There are treatment sites to provide treatment for AIDS patients in Yemen	3%	90%	7%	95%	1%	4%
Does the National AIDS Control Program have a toll-free line 175 to answer public inquiries about the right of AIDS?	2%	88%	10%	100%	0%	0%

As shown in Table 2 Majority of the respondents (89%) were able to correctly answer the AIDS is caused by virus with the remaining (11%) not able to provide any correct answer, also about (85%) were able to correctly answer there is no vaccine against HIV infection, while (10%) were with wrong answer, and (5%) were no idea about this.

In addition, in this study (91%) from respondent students were have good knowledge and were able to correctly answer about there no treatment for HIV \ AIDS; while (4%) answer with wrong and (5%) were no idea.

In the same Table; we notice the different about knowledge of student knowledge about HIV/AIDS after education; comparing before the education, where we note that, all student answer with correct about general knowledge about HIV/AIDS.

Majority of the participants were able to correctly identify one or more mode of HIV of transmission with the remaining not able to provide any correct answer; but after

education we notice almost all of The participants able to correctly.

Out of those who correctly identified the modes of transmission, (81.5%) knew that HIV could be transmitted through sexual intercourse with infected persons; (78 %) by sharing needles/syringes with infected persons and the remaining (60%) through mother- to child medium.

After listening to our education, we noticed the change in knowledge about modes of transmission HIV/AIDS and majority were able to correctly answer.

(49.5%) only of Participants students were having knowledge about that, the HIV doesn't transmit by shaking hands & kissing, While (84%) and (69%) Participants students had knowledge about that, HIV doesn't transmit through infected person cough/sneeze and also through sharing food utensils with an infected person; respectively. In the same Table, knew that HIV could not be transmit through mosquito's bites, (88%) and

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(71.5%) knew that HIV could not be transmitted through touching the blood of an infected person and through Bathroom toilets; respectively.

A very important finding of our study was that all college students who participated in the survey had heard about AIDS special about General knowledge about HIV/AIDS, although they are still at the first years; perhaps this information came from the secondary education in the school; but this knowledge had a number of misconceptions about it. This results was agree with other study which done in India by Joshi et al., [1]

The number of misconceptions we were able to amend it after the after education. These results are very similar to the results in many studies [5, 9, 12], as for the students' knowledge of the main AIDS transmission methods, was incomplete knowledge; however it was very high after the lecture and discussion with them.

In this study, some misconceptions in students who participated about the ways in which AIDS is not transmitted as shown in Table 1; where the most of the participants thought that the either virus is transmitted by shaking hands and kissing, cough/sneeze and mosquito's bites, etc; maybe the misconceptions thoughts due to fear of transmission of HIV.

The participants' attitude about HIV/AIDS was very poor as shown in Table 1; less than half participants in this study said that A child with AIDS is entitled to an education; which represent (20%) while (76%) said that A child with AIDS is not entitled to an education. There were many negative stigma issues: more participants in this study believed that child who were HIV positive should not have entitled to an education. This results similar Wongkongdech, et al., [10]

The participants' attitude about HIV/AIDS was very poor ; less than half participants in this study said that A child with AIDS is entitled to an education; which represent (20%) while (76%) said that A child with AIDS is not entitled to an education..

A total of 200 participant students in this study, only 10 % they think HIV patients can live with the community with normal life, whereas (88%) respondents indicated that they think HIV patients should be isolated from the community and this agree with [10]

(3%) only were knew there are treatment sites to provide treatment for AIDS patients in Yemen; while (90%) were don't know about it.

As mentioned in Tee & Huang [9]; the cure for HIV/AIDS is nowhere in sight, though the quest for it continues through research. What has been established is that HIV/AIDS is manageable, controllable and preventable. This can be very well realized, if education is afforded the priority it deserves.

The National AIDS Control Program have a toll-free line 175 to answer public inquiries about the right of AIDS; about (88%) from participant students were don't know about that.

Impact of education programme was very clear in answer of the participants about attitude about HIV/AIDS As shown in results, because most of the attitude about HIV/AIDS changes completely.

#### 4. Conclusion

In our study the effect of education on the promotion of knowledge and attitude about HIV/AIDS in youth. Our findings showed that an educational intervention might have a key impact to a correct understanding of how AIDS can be transmitted and thus can reduce the increasing rate of AIDS occurrence in youth.

Finally, we can say that this study contribute to the acquisition of new information that the participating students in the study were not aware about it

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#### Author information

ORCID 

Nousiba L. Jaml: [0000-0003-3971-8653](https://orcid.org/0000-0003-3971-8653)

## مقالة بحثية

## أثر التعليم على المعرفة والمواقف تجاه فيروس نقص المناعة البشرية / الأيدز بين الطلاب في كلية الآفاق للعلوم الطبية والتقنية، مدينة صنعاء، اليمن.

نسبية لطف جامل<sup>1\*</sup> ID، حسين محمد كليس<sup>2</sup>، امل جمع الفران<sup>3</sup>، حنان نجيب سري<sup>4</sup>، احمد علي عامر<sup>4</sup>، انس عبدالغني تيس<sup>4</sup>، عبدالعزيز يحيى يعقوب<sup>4</sup>

<sup>1</sup> قسم علوم الحياة، كلية العلوم، جامعة صنعاء، صنعاء، اليمن

<sup>2</sup> كلية الطب والعلوم الصحية، جامعة عدن، عدن، اليمن

<sup>3</sup> وزاره الصحة العامة والسكان، قطاع الرعاية الأولية، برنامج مكافحة الأيدز، صنعاء، اليمن

<sup>4</sup> كلية الآفاق للعلوم الطبية والتقنية، صنعاء، اليمن

\* الباحث الممثل: نسبية لطف جامل؛ البريد الإلكتروني: n.jamel@su.edu.ye

استلم في: 29 أبريل 2020 / قبل في: 26 مايو 2021 / نشر في: 28 يونيو 2021

## الملخص

متلازمة نقص المناعة المكتسب (AIDS) هي حالة مزمنة تهدد الحياة بسبب فيروس نقص المناعة البشرية (HIV). من خلال إتلاف جهاز المناعة، يتدخل فيروس نقص المناعة البشرية في قدرة الجسم على مكافحة العدوى والمرض. فيروس نقص المناعة البشرية هو عدوى تنتقل عن طريق الاتصال الجنسي (STI). لا يوجد علاج لفيروس نقص المناعة البشرية / الإيدز، ولكن الأدوية يمكن أن تبطئ بشكل كبير من تطور المرض. لقد أدت هذه العقاقير إلى خفض وفيات الإيدز في العديد من الدول المتقدمة. تكشف عدد من دراسات المعرفة والمواقف والممارسة التي أجريت في أجزاء مختلفة من العالم عن مفاهيم خاطئة واسعة الانتشار حول المرض بين الشباب. طلاب الطب هم أطباء الغد الناشئون وقد دخلوا لتوهم في المهنة النبيلة، وبالتالي، هناك حاجة لتقييم تأثير التعليم على المعرفة والمواقف تجاه فيروس نقص المناعة البشرية / الإيدز بين الطلاب. نتائج هذه الدراسة تبينت بأنه كان للتعليم تأثير على الطلاب المشاركين وايضاً ساعدت في زيادة في المعرفة وتغيير مفاهيم خاطئة حول المرض.

الكلمات المفتاحية: متلازمة نقص المناعة المكتسب، فيروس نقص المناعة البشرية، المعرفة، المواقف.

## How to cite this article:

N. L. Jaml, "IMPACT OF EDUCATION ON KNOWLEDGE AND ATTITUDES TOWARDS HUMAN IMMUNODEFICIENCY VIRUS AMONG MEDICAL AND TECHNICAL STUDENTS IN AL-AFAQ COLLEGE OF SCIENCE, SANA'A CITY, YEMEN.", *Electron. J. Univ. Aden Basic Appl. Sci.*, vol. 2, no. 2, pp. 71-76, Jun. 2021.  
DOI: [10.47372/ejua-ba.2021.2.92](https://doi.org/10.47372/ejua-ba.2021.2.92)



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