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HIV/AIDS–related knowledge and attitude among assiut University students

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Abstract
Background: With the continuing dramatic increase of HIV/ AIDS incidence adequate knowledge about the disease transmission is essential step for prevention. As general, knowledge and attitude studies are used in designing health promotion and education programs for interventions.
Aim: This study aims to assess knowledge and attitude towards HIV/ AIDS among Assiut University students.
Methods: The study was performed by using both quantitative and qualitative design among Assiut University students with gender segregation; cross sectional study using self -administered questionnaire among 500 males' non-medical students and Five Focus Group Discussions among females' students in Faculty of Nursing during the academic year 2012/2013. Statistical analysis was done using SPSS version16. The significant level of p value was calculated at $p< 0.05$.
Results: The present study included 500 male's non-medical university students aged 18 to 24 years with mean age 20.9 years old and 50 female students of Faculty of Nursing. Knowledge of HIV/ AIDS and its modes of transmission were significantly good among students. The source of information among 61.2% was their study. There were some misconceptions and negative attitude toward the disease.
Conclusion: The study revealed that university students were knowledgeable about HIV/AIDS but had negative attitude toward AIDS patients. Health education programs and training of university students are needed to address negative attitude toward people with HIV.

Keywords: HIV/ AIDS, university students, knowledge, attitude

Introduction

Human immunodeficiency virus (HIV) is a major challenge to health and development. It spreads rapidly around the world, particularly in developing countries. Egypt is considered a low epidemic country for HIV/AIDS as the estimated adult HIV prevalence rate in Egypt is relatively low. According to the UNAIDS, the estimated number of people living with HIV in Egypt was 7,439 in 2013 (1). Youth represent a growing sector of people living with HIV worldwide. In 2015, 670,000 people between the ages of 15 to 24 were newly infected with HIV, of whom 250,000 were between the ages of 15 and 19. Additionally, AIDS-related deaths among adolescents have increased over the past decade. In 2015, a new global strategy was launched which aims to end the AIDS epidemic by 2030. To achieve this, it is critical to accelerate efforts to address the epidemic among adolescents and, therefore, The ALL IN! To End Adolescent AIDS agenda was launched in early 2015 in partnership with other international health and development partners. This agenda established 2020 targets to better position the global response to end the AIDS epidemic among adolescents by 2030 (2). Although there is a lot of literature about the knowledge, attitude and practice (KAP) of adolescents regarding sexual and reproductive health, great differences exist among the subjects, contents and results of the studies. Egyptian Demographic Health Survey (EDHS) collected information in 2008 to assess the knowledge of modes of HIV transmission and prevention and attitudes toward persons living with AIDS and the results show that only around 5% of young women and 20% men had such knowledge (3). According to 2014 EDHS, only 4% of women had comprehensive correct knowledge about AIDS. And half of the interviewed women would be willing to care a relative with AIDS at home. Accepting attitudes were expressed by only 2% of the women, indicating that some degree of stigma is almost universally associated with HIV/AIDS within Egyptian society (4).
Results of several studies showed that sexual risk behaviors among university students might have been acquired through a period of campus life so they are likely to be at risk of HIV/AIDS. Therefore, equipping students with appropriate level of knowledge and attitude towards HIV/AIDS is one of the important strategies to prevent the incidence of HIV/AIDS (5-8).

Aims of the study

Information on knowledge about HIV and frequency of risk behaviors related to HIV transmission is important in identifying and understanding population at risk. And because of local social and cultural barriers to directing youths' attention towards the pandemic, the present study aimed to:

1. Assess knowledge and attitudes towards HIV/ AIDS among non-medical male Assiut University students.
2. Determine the relationship between the respondents' personal factors and their HIV/AIDS knowledge and attitudes.
3. Evaluate the perception of nursing students toward risks of transmission of HIV infection and AIDS and how to prevent it

Research questions

- What are the knowledge and attitudes of males and females students towards HIV/AIDS?
- What are the participant's beliefs about HIV/AIDS?

Methods

This study was conducted by using both quantitative and qualitative designs among Assiut University students during the academic year 2012/2013. Cross sectional study for quantitative data and Focus Group Discussions (FGDs) for qualitative data.

Sample size

The sample size was calculated using EPI Info 2000 computer program. The prevalence of HIV/ AIDS knowledge among Egyptian youth aged 15 to 24 Years was estimated by the Demographic Health Survey 2008 was 20% among males and 5% among females (3). The calculated sample is 250 with 95% Confidence level. The sample size increased to 500 to guard against non-response rate. 500 males' students and 50 females' students.

Data collection

Data collection was conducted from February to May 2013. Quantitative data collection was done by using an anonymous self-administrative semi-structured questionnaire; it included personal characteristics, knowledge and attitudes concerning HIV/ AIDS. Questionnaires were distributed in the university hostels. Students took approximately 10-15 minutes to complete the questionnaires. Five focus group discussions were performed among female students in Faculty of Nursing. Groups ranged in size from 8-12 participants and each session last 45-60 minutes. Group discussions were audio tape-recorded after taking permission of the participants who were assured of confidentiality of their discussions. Moderator used a designed protocol to ask open-ended questions and to probe response. FGD guide explored participants' knowledge and attitudes towards HIV/ AIDS. The moderators and note takers received previous training on this type of qualitative data collection.

Ethical considerations

Formal administrative approvals were taken before the start of the fieldwork. These included approval by the Ethical Review Committee of Faculty of Nursing. An oral informed consent was obtained from the study participants. Privacy and confidentiality of all data were assured. The participation in the study was voluntary.

Data management and analysis plan

Data were analyzed using SPSS (version 16). The descriptive statistics were computed. Chi-square test was used as the test of significance. Classification of the knowledge was done as follows:

Scoring of the knowledge was done as the correct answer equal 1 and the false or don't know answers equal 0. The knowledge scale was computed by summing all correct responses. Categorization of the knowledge was done as follows:

- Poor knowledge was considered if < 50% of questions were answered correctly.
- Satisfactory knowledge was considered range from 50% to 75% of questions that were answered correctly.

Good knowledge was considered > 75% of questions that were answered correctly (9, 10). The attitudes ≥ 60% indicated favorable positive attitudes while < 60% indicated negative attitudes. $P < 0.05$ was considered significant.

For qualitative data: Coded material transcribed, and themes were identified through independent content analysis of the transcriptions and assistant moderator notes.

The Focus Group Discussion guide explored participants' knowledge, attitude toward HIV/ AIDS using open-ended key questions. The focus group moderators and observers received previous training on this type of qualitative data collection. Group discussions were tape-recorded and transcribed, and themes were identified through independent content analysis of the transcriptions and assistant moderator notes.

Results

The present study included 500 male university students aged 18 to 24 years with mean age 20.9 years old. More than two thirds of them (65.2%) studied in practical faculties and 34.8% were in theoretical faculties. About half of the sample was in the fourth year of their study. As the regard score of knowledge, Figure (1) shows that more than half of the respondents had good knowledge while 14.2% had poor knowledge towards HIV/AIDS.

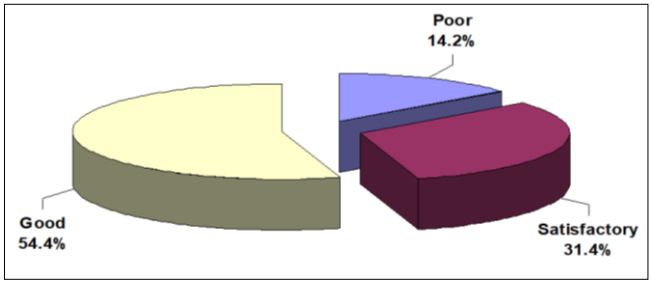

Fig 1: HIV/ AIDS knowledge level among studied male students

Table (2) shows the HIV/AIDS knowledge of studied male students. About three quarters correctly knew that HIV/AIDS is a fatal disease and more than half of them knew its signs and symptoms. Illegal sexual intercourse, infected blood transfusion and mother to child during pregnancy were the most frequently reported mode of transmissions. There were misconceptions about routes of transmission as AIDS virus can be transmitted by using toilets and swimming pools, sharing food with infected person and mosquito bites reported by 21.6% and 13.4%, 12.6%, respectively. Regarding the risky groups, the majority of studied students knew the persons with multiple sexual partners, infected partners, drug addicts, frequent blood recipients and STDs patients. Knowledge of the studied students about impact and prevention of HIV/ AIDS was shown in Table (3). The vast majority of the students reported that HIV/AIDS virus destructs the immune system and increases the prevalence of psychiatric disease and suicide. Among the respondents, the source of information for most of them was through their study, (61.2%), television (52.6%), internet (48.6%) followed by friends and relatives (29.0%). Those who heard from healthcare providers were 16.2%. The vast majority of students needed more information about HIV/AIDS specially methods of prevention and treatment and disease definition and its symptoms (Table 4). Figure (1) presents knowledge scores

about HIV/AIDS as 54.4% were having good scoring level of knowledge, 31.4% had satisfactory score and 14.2% had poor score. Good level of knowledge about AIDS was statistically significant more frequently among age group above 20 years (58.3%), students in practical faculties (60.7%) and those working in medical fields (84.3%) Table (5).

Table (6) illustrates that there were intolerant attitudes towards AIDS patients. About half of students were not willing to work with people with HIV/AIDS (43.2%). live at the same home with people having HIV/AIDS (55.0 %), share foods with HIV positive people (53.0%) and care for a member ill with AIDS in the same household (24.0%). As shown in Figure (2) only 68.6% of participants had negative attitudes towards people infected with AIDS virus. This attitude was more among students aged 18-20 years and who worked in tourism (Table 7). Figure (3) shows good positive significant correlation between HIV/ AIDS knowledge and attitudes scores of students (P =0.000 & r= 0.378). This means that respondents with higher score of knowledge had more positive attitudes towards AIDS patients. As shown in Table (9), 63.0% would like to do HIV test. While 67% of the students wanted, their future wives do these tests. It was found that 17.2% did HIV test before for checkup (44.2%), travelling (43%) or as a work requirement (12.8%). More than one third of the male students know AIDS Health Center in Walydia which perform AIDS investigations and 77.8% think that if AIDS investigations are free would more people do them.

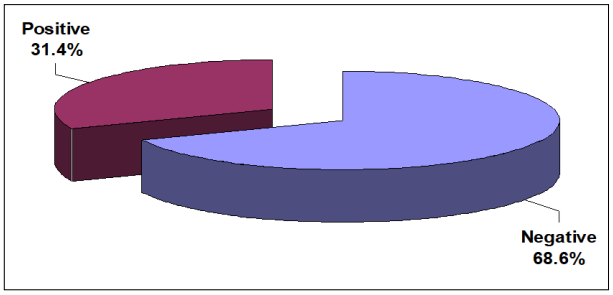

Fig 2: Attitudes towards HIV/ AIDS patients among male studied students

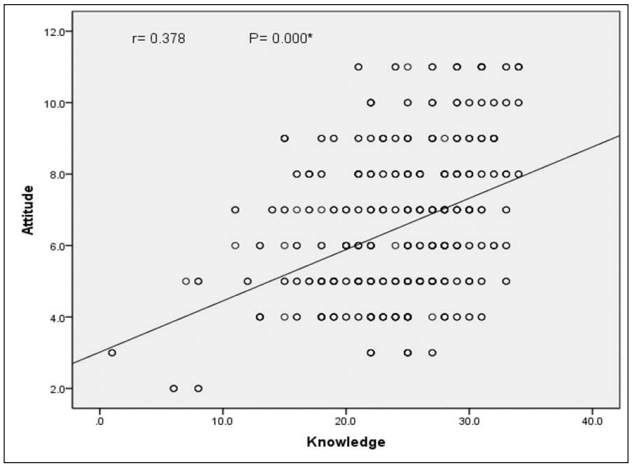

Fig 3: Correlation between knowledge score and attitude score

Table 1: Personal characteristics and some risk factors of the studied male students Assiut University, 2013

Variable	No. (n= 500)	%
Age (years)		
18 -	186	37.2
> 20 years	314	62.8
Mean ± SD (Range)	20.86 ± 1.16 (18 – 24)	
Religion		
Moslem	464	92.8
Christian	36	7.2
Residence		
Rural	277	55.4
Urban	223	44.6
Faculty type		
Theoretical	174	34.8
Practical	326	65.2
Grade		
First	30	6.0
Second	35	7.0
Third	166	33.2
Fourth	257	51.4
Fifth	12	2.4
Smoking		
Smokers	72	14.4
Non-smokers	428	85.6
Addicting drugs		
Yes	16	3.2
No	484	96.8
Traveling abroad		
Arabic countries	55	11.0
Foreign countries	17	3.4
No	428	85.6
Working in medical fields		
Yes	102	20.4
No	398	79.6
Working in tourism		

Yes	29	5.8
No	471	94.2

Table 2: Knowledge of the studied male students about HIV/ AIDS

Item	Yes		No		Don't know	
	No.	%	No.	%	No.	%
HIV/AIDS causes a fatal disease	372	74.4	43	8.6	85	17.0
Signs and symptoms of AIDS	268	53.6	76	15.2	156	31.2
Modes of transmission						
Illegal sexual intercourse	469	93.8	14	2.8	17	3.4
Infected untested blood transfusion	453	90.6	17	3.4	30	6.0
From mother to baby during pregnancy	300	60.0	72	14.4	128	25.6
From mother to baby during delivery	242	48.4	74	14.8	184	36.8
From mother to baby through breast feeding	188	37.6	115	23.0	197	39.4
AIDS virus is excreted in all body fluids, especially blood and milk	187	37.4	50	10.0	263	52.6
Shaking hands, sitting or hug an infected person	63	12.6	360	72.0	77	15.4
Eating / drinking in the same dish with an infected person	67	13.4	352	70.4	81	16.2
Using toilets and swimming pools	108	21.6	271	54.2	121	24.2
The most vulnerable to the disease						
Who has multiple sexual partners	476	95.2	12	2.4	12	2.4
Woman who is married from an infected person	459	91.8	25	5.0	16	3.2
Drug addict	408	81.6	37	7.4	55	11.0
Who receives frequent blood transfusion	357	71.4	49	9.8	94	18.8
STDs patients are more susceptible for AIDS	351	70.2	60	12.0	89	17.8
Who working in tourism	301	60.2	86	17.2	113	22.6
Who travel abroad frequently	274	54.8	113	22.6	113	22.6
Renal dialysis patient	204	40.8	134	26.8	162	32.4
Healthy looking person may have AIDS	211	42.2	171	34.2	118	23.6
HIV/ AIDS has a vaccine	91	18.2	293	58.6	116	23.2
HIV/ AIDS can be treated and curable	73	14.6	325	65.0	102	20.4

Table 3: Knowledge of the studied male students about impact and prevention of HIV/ AIDS

Item	Yes		No		Don't know	
	No.	%	No.	%	No.	%
Effect of HIV/AIDS						
HIV/AIDS virus destructs the immune system	457	91.4	15	3.0	28	
HIV/AIDS virus increases the prevalence of psychiatric disease and suicide	418	83.6	38	7.6	44	8.8
HIV/AIDS virus destroys the community economics	397	79.4	36	7.2	67	13.4
HIV/AIDS virus causes community end over	382	76.4	48	9.6	70	14.0
HIV/AIDS virus causes spread of other infectious diseases	355	71.0	43	8.6	102	20.4
HIV/AIDS virus affects population composition and decrease youth number	342	68.4	55	11.0	103	
Prevention of HIV/AIDS						
Health education about prevalence of AIDS and its impact	449	89.8	12	2.4	39	7.8
Avoiding extramarital relations	427	85.4	26	5.2	47	9.4
Religious information and instructions	401	80.2	72	14.4	27	5.4
Wright information about sex and STDs decrease risk of infection with AIDS	381	76.2	93	18.6	26	5.2
Avoiding watching of sexual rehearsal films	295	59.0	81	16.2	124	24.8
Avoiding listening to sexual rehearsal songs	244	48.8	105	21.0	151	30.2

Table 4: Source and needed information of the studied male students about HIV/ AIDS

Item	No. (n= 500)	%
Scientific study	306	61.2
Television	263	52.6
Internet	243	48.6
Friends/ relatives/ neighbors	145	29.0
Newspapers/ magazines	118	23.6
From health providers	81	16.2
Courses/ training at medical places	60	12.0
Family	47	9.4
Radio	39	7.8
Do you want knowing more information about AIDS:		
Yes	451	90.2
No	49	9.8
Needed information: (n= 451)		
Methods of prevention	321	71.2
Methods of treatment	302	67.0

Definition of disease and symptoms	271	60.1
Modes of transmission	260	57.6
Laboratory investigations	104	23.1

Table 5: Level of knowledge according to personal characteristics

Personal characteristics	Knowledge level						P-value
	Poor (n= 71)		Satisfactory (n= 157)		Good (n= 272)		
	No.	%	No.	%	No.	%	
Age							
18 - 20 years	16	8.6	81	43.5	89	47.8	0.000*
> 20 years	55	17.5	76	24.2	183	58.3	
Residence							
Rural	47	17.0	78	28.2	152	54.9	0.065
Urban	24	10.8	79	35.4	120	53.8	
Faculty							
Theoretical	28	16.1	72	41.4	74	42.5	0.000*
Practical	43	13.2	85	26.1	198	60.7	
Traveling abroad							
Yes	14	19.4	15	20.8	43	59.7	0.080
No	57	13.3	142	33.2	229	53.5	
Working in medical fields							
Yes	6	5.9	10	9.8	86	84.3	0.000*
No	65	16.3	147	36.9	186	46.7	
Working in tourism							
Yes	5	17.2	8	27.6	16	55.2	0.841
No	66	14.0	149	31.6	256	54.4	

Table 6: Attitudes of studied male students towards AIDS patients

Item	Yes		No		Don't know	
	No.	%	No.	%	No.	%
Are you afraid from being engaged with person had history of many sexual relations?	430	86.0	52	10.4	18	3.6
If you heard about someone who was infected by one of STDs or AIDS would you think that he/ she has immoral life	231	46.2	195	39.0	74	14.8
Do you think that it is possible to share sharp objects with others?	55	11.0	431	86.2	14	2.8
Do you think if one of the couples was infected by STDs should he /she tell the other?	402	80.4	25	5.0	73	14.6
HIV/ AIDS patients should be isolated in a special center	243	48.6	193	38.6	64	12.8
HIV/ AIDS patients should be allowed to get married as long as other partner know about this	117	23.4	298	59.6	85	17.0
HIV/ AIDS patients should be allowed to have children	113	22.6	301	60.2	86	17.2
Willing to work with people with HIV/AIDS	208	41.6	216	43.2	76	15.2
Willing to live at the same home with people having HIV/AIDS	155	31.0	275	55.0	70	14.0
Willing to share foods with HIV positive people	137	27.4	265	53.0	98	19.6
Willing to care for a member ill with AIDS in your household	274	54.8	120	24.0	106	21.2

Table 7: Level of attitude according to personal characteristics

Personal characteristics	Attitude				P-value
	Negative (n= 343)		Positive (n= 157)		
	No.	%	No.	%	
Age					
18 - 20 years	140	75.3	46	24.7	0.013*
> 20 years	203	64.6	111	35.4	
Residence					
Rural	189	68.2	88	31.8	0.843
Urban	154	69.1	69	30.9	
Faculty:					
Theoretical	117	67.2	57	32.8	0.632
Practical	226	69.3	100	30.7	
Traveling abroad					
Yes	44	61.1	28	38.9	0.139
No	299	69.9	129	30.1	
Working in medical fields					
Yes	64	62.7	38	37.3	0.153
No	279	70.1	119	29.9	
Working in tourism					
Yes	25	86.2	4	13.8	0.035*
No	318	67.5	153	32.5	

Table 8: Attitudes towards AIDS laboratory investigations among studied male students, Assiut University, 2012

Item	No. (n= 500)	%
Willing to do test for HIV/ AIDS?		
Yes	315	63.0
No	185	37.0
Willing your future wife to do these tests		
Yes	335	67.0
No	165	33.0
In your opinion, premarital HIV test should be		
Compulsory	323	64.6
Voluntary	177	35.4
Ever been tested before for AIDS		
Yes	86	17.2
No	414	82.8
Why you did this test?		
For job	11	12.8
For traveling	37	43.0
For check up	38	44.2
If someone wants to do AIDS investigations, where he/she does go?		
AIDS Health Center in Walydia	194	38.8
Private laboratory	168	33.6
General hospital	38	7.6
Both Private laboratory and AIDS Health Center in Walydia	23	4.6
Don't know	77	15.4
Do you think that if AIDS investigations are free would more people do them?		
Yes	389	77.8
No	81	16.2
Don't know	30	6.0

Results of Focus Group Discussions

The mean age of the participants was 20 years. Nursing students acquired HIV/AIDS knowledge in their study so most of them had heard about AIDS considered it a fatal disease and displayed good knowledge of the causes of AIDS in general.

A few students gave clear descriptions of AIDS. One student said: *"AIDS has long incubation period; it stays in the human body before getting symptoms; the virus destroys all the resistance in the body"*. The focus group discussions revealed the vast majority of the participants demonstrated accurate knowledge about the causes and impact of AIDS; all of them knew that AIDS is transmissible by blood-to-blood contact, such as sharing razor blades. Some reported that AIDS can be transmitted through sex and injections, but others incorrectly stated that infection can occur through mosquito bites and from toilets. Intercourse and drug needles were the first modes of infection named. Social contacts, e.g. shaking hands and touching, were mentioned as the vast majority of the students had good attitudes and described their willingness to care patients with HIV/AIDS but five students had negative attitudes and they were reluctant to provide care to people with HIV/AIDS because they fear of contracting HIV/AIDS. One of them said "*I could contract the HIV virus when deal with this patient and may infect my family"*. Because the stigma attached to the disease some students were afraid of contracting HIV/AIDS during future work. Many participants expressed emotions such as pity and compassion towards HIV/AIDS patients but reported that caring for these patients is influenced by the stigma attached to the disease. The students described the care for patients with HIV/AIDS as challenging and stressful tasks. The majority of them said *"I will give the care and I will deal with HIV/AIDS patients as same as the Other patients but with caution. I will take the safety precautions to protect myself".*

Discussion

Studied of knowledge and attitudes are important to assess the risk-free behaviors adoption of an individuals or communities prior to any interventions. Given the early stage of HIV/ AIDS appropriate knowledge may play an important role in preventing the further spread of AIDS. Many studies recommended that the surveillance should target mainly the at-risk reproductive age group who are sexually active (5-8; 11-13).

The present study in assessment of KAP focused on male students because the researchers believe that HIV-related risky behaviors are more prevalent among males than females. Females are often hesitant to answer questions related to sexual activity and have comparatively less opportunities to mix with wider society. Socio-economic issues associated with poverty, including limited access to high-quality health care and common substance use can directly, or indirectly, increase HIV risk factors among women (13). Men play a more active role during sexual activity, and often men deny protective measures, such as condoms, during sex. Moreover, men often influence women in decisions about safe sex practices. Discussions of sexual matters and issues related to STDs/AIDS are taboo in Upper Egypt. Many young people lack basic knowledge about HIV prevention. Survey data from 64 countries indicate that 40% of males and 38% of females aged 15–24 had accurate and comprehensive knowledge about HIV and about how to avoid transmission. Obstacles to gaining knowledge about AIDS in Egypt are many. HIV/AIDS is considered a low health priority, little information exists on HIV cases and risk behaviors, and cultural and social stigmas (1).

The level of knowledge among students in the current study was high when compared with other similar studies. In addition, some of respondents lack basic knowledge on HIV/AIDS prevention methods. Even if majority of respondents have good knowledge towards HIVAIDS, almost half of the respondents had unfavorable attitude towards treating and working with HIV/AIDS patients, which shows that they did not extend their knowledge to the stigma and reservations identified around working with and treating people with HIV/AIDS. This calls the need for health courses to address not only the medical aspects of HIV but also the social components, related with stigma and discrimination against HIV/AIDS patients. Only 5% of male university students in Ilorin, Nigeria, and 7–12% of students in Viet Nam knew that carriers of sexually transmitted infections (STIs) and HIV show no outward evidence of their condition. Over 80% of respondents in studies in China, Guatemala, Indonesia, Kenya, Nigeria, Peru and Thailand were aware of AIDS but few reported working knowledge of modes of transmission. A number of young people believe that STIs and HIV can be transmitted by sharing glasses or eating utensils, using the same toilet as an infected person, poor personal hygiene and mosquito bites. Some maintained that infection is transmitted through kissing (44% of about-to-be-married women in Shanghai), touch (78% of male patients attending an STI clinic in New Delhi, India), and even being in the same room as an infected person (24% of females and 28% of males in 13 provinces of Indonesia) (14). One common and very dangerous misconception relates to the asymptomatic nature of STIs and HIV. In 2007, national surveys across several African countries found that 40% of young males and 36% of young females had accurate knowledge regarding HIV (15). The common sources of information about HIV/ AIDS were study (61.2%), television (52.6%) and internet (48.6%).

Al-Khasawneh *et al*., (2013) [16] found that books, magazines, and the internet were the source of information in 85.4% followed by mass media (81.5%), and teachers (73.6%) (16). The current findings indicated that university students were to somewhat knowledgeable about AIDS but had negative attitudes towards AIDS patients. The majority of them were not willing to buy fresh vegetables from shopkeeper with AIDS or allow a female teacher with AIDS to continue teaching in the school. This result can be explained by the strong fear from AIDS patients in Egyptian society and some degree of stigma and this may be due to the lack of social cohesion and poor access to the accurate information on AIDS. Also, Al-Serouri *et al*. (2010) [17] reported that there were intolerant attitudes towards AIDS patients (17).

The present study is in agree with the findings by Ouzouni and Nakakis (2012) [18], Tung *et al*. (2008) [19], UNAIDS (2008) [1] and Tavoosi *et al*. (2005) [21] (18-21) who have reported a correlation between knowledge and attitude. The FGDs revealed that nursing students were knowledgeable about HIV/ AIDS and positive attitudes towards the patients. Some qualitative studies have explored the context of HIV/AIDS knowledge among university students. Yet, few studies have addressed the reported gender differences in HIV knowledge levels among this target population (22-23). One qualitative study explored the knowledge of HIV/AIDS transmission among college students in Tanzania (24). The analysis revealed students' misinformation regarding HIV transmission, whereby several students believed HIV transmission is passed through water and saliva. Students also perceived themselves as less susceptible to contracting the virus. Care of people with HIV/AIDS is challenging because of its complexity nature and its associated stigma. The majority of the respondents nursing students in this study agreed to provide care to HIV/AIDS these are in consistent with the findings of Ouzouni and Nakakis (2012) [18] as about three quarters of the student nurses reported "I would provide nursing care" (22).

Conclusion and Recommendations

The study revealed relative accepted knowledge about HIV/AIDS among respondents. Some misconceptions were found about route of transmission as AIDS virus can be transmitted by shaking hands and sharing food with infected person. There were intolerant negative attitudes towards AIDS patients. End the silence and stigma about HIV/AIDS and provide students with sufficient and scientific knowledge and information about this disease. Health education programs must play a leading role to help university students understand and overcome poor knowledge and negative attitudes. Promote voluntary and confidential HIV testing and counseling and provide youth-friendly services. Work with university students; promote their participation in prevention and control of AIDS. Nurses must be given updated knowledge, overcome their fears and attitudes and increase their confidence and ability for caring of HIV/AIDS patients.

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