

An Educational Intervention for University Female Students to Raise Sexually Transmitted Diseases Awareness

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Abstract:

Background: Sexually transmitted diseases (STDs) are one of the various widespread infectious diseases throughout the globe and have negative impacts on reproductive health.

Objective: To evaluate the effect of an educational intervention on raising awareness of sexually transmitted diseases for University Female Students.

Study design: A quasi-experimental design – one group pre-posttest.

Subjects and sampling: Through convenient sample, the students in Non-health Colleges Princess Nourah University of different academic levels were selected (1223 students).

Setting: The study was conducted at Non-health Colleges in Princess Nourah University in Saudi Arabia.

Tool: A self-administered questionnaire This was done by adapting STDs questionnaire that has been created by Jaworski & Carey (2007) after reading the relevant publications to use for collect data according to the following classification:- Part I: Demographic data of university students such as age, students' grade & marital status. Part II: Source of information on STDs as social media, friends, public talker, teacher, health worker, posters, and newspaper. Part III: Questions about awareness of university students about STDs and its symptoms.

Results: The finding of this study shown that two -thirds of university female students gain their awareness through social media while only less than half of them get their information from teachers. In addition, the findings revealed that the level of awareness for majority of university students regarding STDs had been raised after implementation of the educational intervention than before with highly statistically significant differences.

Conclusion: The applied educational intervention is effective to raise awareness of sexually transmitted diseases for university female students.

Recommendation: An educative syllabus about STDs must be educated in high for both gender school students before Joins with University. In addition to raising awareness of STDs by social media should be under control of professional specialist in this field.

Keywords: Awareness, Education intervention, Sexual transmitted disease, University students.

Date of Submission: 17-12-2019

Date of Acceptance: 31-12-2019

I. Introduction

Sexually transmitted diseases (STDs) are among the various widespread infectious diseases throughout the globe. Worldwide, Sexually transmitted diseases (STDs) have negative impacts on reproductive health especially for teenagers. ⁽¹⁾ Literature often reference (STDs) as sexually transmitted infections (STIs). Numerous sexual transmitted diseases can be asymptomatic at an early stage therefore, can be easily transmitted on ignorant during un-protective sexual intercourse. Hazards of developing these infectious diseases are greater for females than males, especially when being ignored or untreated. They can result in poor fertility or even if pregnancy occurs, they can adversely affect pregnancy outcomes. ⁽²⁾ In Saudi people, there are numerous difficulties to spotlight on over STDs, as it is not allowed on the ethical perception. ⁽³⁾ Statistical records on STDs in Saudi Arabia and other Muslim regions are inadequate. Living in traditional culture, denial is often the rule when asked around STDs but it is not aiding to deal with this critical issue. Privacy and data protection considerations are significant obstacles for getting medical attention between many teenagers with potential STDs. ⁽⁴⁾ It is reported that, there were 110 million prevalent STIs among women and men in the United States. ⁽⁵⁾ While within the Middle East and Africa, approximately 99 million in females aged between 15 to 49 years were diagnosed with herpes simplex virus. ⁽⁶⁾ In Saudi Arabia, HIV information had first been publicly released in 2004 but only a few findings explain the trend of STIs throughout the Country. ⁽³⁾ Currently, no regional research in Saudi Arabia had been done either to improve their awareness of STDs or even how to prevent ⁽⁷⁾ Most infectious agents for (STDs) which are commonly acquired by sexual act can be bacterial agents such as in chlamydia, syphilis and gonorrhea or viral agents such as in HIV / AIDS, hepatitis B, measles and human

papillomavirus (HPV) or even protozoa or fungi.⁽⁸⁾ Research on the occurrence of STDs between young adults have shown rising susceptibility, avoidance appears to be a greater public health problem.^(9, 10, 11) Highest incidence of STIs is found between 15 to 24 years of age, and by 15–19 years of age.⁽¹²⁾ In Arab countries, it is anticipated that adolescents have basis of information regarding the hazards and protective elements of STDs due to the presence of education and travelling for education, particularly in traditional countries where religiosity is a strong preventative measure towards unsafe practices.⁽¹³⁾ There is proof that sexually active teenagers were at a higher risk for STDs, along with HIV, as opposed to other age groups due to cumulative behavioral, biological, and social reasons.^(14, 15) Several countries develop many techniques to improve awareness about how to reduce STDs transmission. It is necessary to implement educational programs pointed to most susceptible risk population groups to limit the spread of STIs.⁽¹⁶⁾ Another qualitative study concluded that higher than half of university students did not realize the source of infection of STDs and the high-risk groups for STDs and STIs.⁽¹⁷⁾ Another study in Saudi Arabia, shown that marital females had a low level of awareness regarding STIs and STDs and many misunderstandings about such topics exist.⁽¹⁸⁾ Even though, there is a major study of both gender school in Europe concerning STDs revealed minimum levels of understanding of sexually transmitted diseases, except for Aids / HIV.⁽²⁾ The present study aimed to evaluate effect of an educational intervention for raising awareness of sexually transmitted diseases for university students.

II. Aim of the Study

To evaluate the effect of an educational intervention on raising awareness of sexually transmitted diseases for University Female Students.

III. Subjects and Methods

3.1. Study design: A quasi-experimental design –one group pre-posttest.

3.2. Research hypothesis: University female students' awareness of sexual transmitted diseases will improve after implementation of an educational intervention than before.

3.3. Study Setting: The study done at Non-health Colleges in Princess Nourah University in Saudi Arabia.

3.4. Subjects and Sampling:

The sample chosen by a convenience method in Non-health Colleges in Princess Nourah University of different academic levels and who agreed to join in the study. The total number of the study subjects includes (1223 students).

3.4.1 Inclusion criteria included university female students who aged 18 years or older and affiliated to Non-Health Colleges.

3.4.2 Exclusion criteria included university female students who aged less than 18 years old or refused to be involved at the study.

3.5. Tool of the study:

Self-administered questionnaire was adapting from Jaworski & Carey (2007) after reading the national and international publications for collecting data according to the three parts: Part I: Demographic data of university students such as age, students' grade & marital status. Part II: Source of information on STDs as social media, friends, public talker, teacher, health worker, posters, and newspaper. Part III: Questionnaire about awareness of university students about STDs and its symptoms.

Supportive material: A colored Arabic pamphlet which developed by the researchers after reviewing literature was given after completion of an educational lecture to raise the university female students awareness of STDs, it included definition of STDs, classifications, signs and symptoms, prevention and management.

3.6. Methods:

1- Ethical consideration:

Written consent had been taken from university students. Students were free to join the study and to be with drawl at any time they want. They also assured about confidentiality and privacy of their information.

2. Tools development:

The tool was developed after reviewing the national and international literature and translate it into Arabic.

2.1 Scoring of awareness:

Self-administered questionnaire distributed to the university students and then obtained. Part 3 which concerned with students awareness of STDs which consisted of 36 items was coded and scored, incorrect answer or do not know was coded as 0 and the correct answer was coded as one. The total score was poor awareness if scored < 50 % while, it was fair if scored from 50 - < 65% and was good if scored ≥ 65%.

3. Validity and reliability of tools

Before conducting the present study, content validity was determined after reviewing the literature and some modifications done such as omitting some items of **Jaworski & Carey (2007)**⁽¹⁹⁾ sexual knowledge questionnaire as it was not acceptable in our Arab community culture or religious (i.e. items related to anal or oral sex). Also rephrasing of some items to be easily understood for university students and grouping items related to symptoms, classification and management. Then a panel of 5 experts (2 Gynecological and Obstetrics medical professors at Faculty of medicine, Mansoura University, 2 woman' Health professors at Faculty of

Nursing, Mansoura University and 1 Community Health Nursing professor at Faculty of Nursing, Mansoura University) reviewed the tool after translation the modified tool into Arabic understandable language. They reviewed the questionnaire for its content, transparency, usability, relevance, comprehensiveness, and suitability. Limited changes in ordering as well as rephrasing of items were done according to the panel guidance and then the final form of the tool was developed. One hundred of the college's student were took a questionnaire to investigate the applicability and were excluded from the total number of the sample. The SPSS program to give Cronbach alpha of 0.93 checked the reliability.

4. Fieldwork:

Health education lecture on sexual transmitted diseases was conducted on the context of a review of the literature. A color educational pamphlet was designed according to the review in a plain Arabic language. The material submitted to five academics to provide their views and feedback on the educational material. The content was adapted based on expert's suggestions. The educational pamphlet include some educational instructions related to STDs definition, classifications, signs, symptoms, and prevention items for STDs.

5. Data collection:

The research was performed at the beginning of January 2016 to April 2016 at the Non-Health Colleges at Princess Nourah University in Saudi Arabia. The questionnaire was circulated for approximately 26 groups as a pretest. Each group include 40-50 female students and then an educational lecture was provided for each group. Each group took from 10-15 minutes to complete the questionnaire, followed by an interactive slideshow, accompanied by brainstorming. The educational lecture included a concise specific information in Arabic understandable language about definition of STDs, spread forms, sign and symptoms for infected persons, management and avoidance of the six much popular STDs: HIV / AIDS, HPV, Chlamydia, Syphilis, Gonorrhoea and, Herpes. After completion of the educational lecture, a colorful Arabic educational pamphlet on STDs was provided to the students. The post-test was carried out immediately after the implementation of the education lecture with the same self-administered questionnaire used for pretest.

6. Data analysis:

For the analysis of the collected data, the Statistical Package for Social Sciences (SPSS) version 20.0 was used. Statistical significance was considered at p-value < 0.05, a highly statistical significant difference obtained at p < 0.001 and non-significant difference obtained at p > 0.05. Descriptive statistical analysis was conducted to accomplish the goal of the research.

IV. Results

Table 1. Demographic data of university female students n= 1223

Demographic data	No.	%
Age		
18 - 20	710	58.1
21 - 30	502	41.0
Above 30	11	0.9
Marital status		
Single	1063	86.9
Married	155	12.7
Widow	1	0.1
Divorce	4	0.3
Students' grade		
First grade	181	14.8
Second grade	1018	83.2
Third grade	24	2.0

Table (1) Designates the features of female university students with slightly more than half (58.1%) of them aged from 18 to less than 20 years old, the majority (86.9% & 83.2%) of them were single and in second grade.

Table 2. Source of female university students' information regarding STDs n= 1223

STDs information	No.	%
Social Media	854	69.8
friends	716	58.5
Public talker	670	54.8
Teacher	571	46.7
Newspaper	537	43.9
Posters	349	28.5
Health worker	266	21.7

More than one answer

Table (2) indicates that more than two-thirds (69.8%) of university students get their information through social media, more than half (58.5% & 54.8%) of them get their information through friends and public talker. While

slightly more than two-fifths (46.7%) of them get their information from teachers and only one-fifth (21.7%) of them get their information through health workers.

Table 3. General awareness of university female students regarding STDs

General awareness of STDs	Before implementation of the educational intervention (1223)		Immediately after implementation of the educational intervention (1223)	
	Correct answer		Correct answer	
	No.	%	No.	%
Awareness of STDs definition and classifications				
STDs are diseases and infections that are transmitted either by sexual intercourse, oral-genital contact or by IV materials.	242	19.8	1091	89.2
STDs are diseases classified into main six much popular STDs: HIV / AIDS, HPV, Chlamydia, Syphilis, Gonorrhoea and Herpes.	298	24.4	1092	89.3
Awareness of STDs causes and risk factors				
The same organism produces all STDs.	210	17.2	1159	94.8
STDs can be caused by viral, bacterial, protozoa or even fungi microorganisms.	732	59.9	985	80.5
Certain STDs causes are unknown.	921	75.3	1055	86.3
Certain STDs can be acquired from sitting on a contaminated toilet seat.	802	65.6	1161	94.9
Recurrent urinary infections could induce STDs.	794	64.9	1087	88.9
Illegal sexual behavior is the first cause of spread of STDs.	760	62.1	1150	94.0
Smoking is among risk factors for STDs.	979	80.0	944	77.2
Alcohol is among risk factors for STDs.	292	23.9	904	73.9
It is possible to get STDs when husband is affected.	427	34.9	907	74.2
More females are affected by Sexually transmitted diseases than males	204	16.7	792	64.8
Awareness of STDs impact on health				
STDs reduce the strength of a person's body to combat diseases.	146	11.9	1144	93.5
Cancer can be caused as a result of certain type of STDs.	800	65.4	1000	81.8
Certain STDs can affect fertility.	68	5.6	1154	94.4
Certain STDs can transfer the disease to the newborn throughout childbearing.	384	31.4	1130	92.4
Awareness of STDs prevention and management				
All STDs have treatment.	37	3.0	1187	97.1
All STDs have available vaccines.	309	25.3	1134	92.7
Vaccination against STDs gives lifelong immunity.	493	40.3	1013	82.8
Female can detect sexually transmitted disease.	318	26.0	1182	96.6
Genital cleaning following sex is sufficient to avoid STDs.	191	15.6	1122	91.7
Vaginal douche after sex decreases a woman's probabilities of having STDs.	67	5.5	1172	95.8
Utilizing condom during sexual intercourse can prevent spread of STDs.	52	4.3	1134	92.7
Both couple must be treated at the same time if any one affected by STDs.	51	4.2	1121	91.7
When the symptoms of STDs disappear, the affected person should stop taking medications.	168	13.7	1149	93.9
Pap smear can detect STDs and prevent spread of infection	297	24.3	695	56.8
Certain type of STDs can be detected by VIA test.	687	56.2	776	63.5

Table (3) indicates that university female students' general awareness of STDs improved after implementation of the educational intervention than before in all items. Especially for items related to prevention and management.

Table 4. Awareness of university female students regarding STDs signs and symptoms n= 1223

Awareness about signs and symptoms of STDs	Before implementation of the educational intervention (1223)		Immediately after implementation of the educational intervention (1223)	
	Correct answer		Correct answer	
	No.	%	No.	%
Signs and symptoms of STDs				
Temperature up and down	289	23.6	958	78.3
Sores (either painful or painless)	206	16.8	947	77.4
Lower abdomen pain	857	70.1	1130	92.4
Unusual vaginal discharges	854	69.8	1123	91.8
Warts	273	22.3	949	77.6
Skin rash	216	17.7	909	74.3
Itchy perineum	294	24.0	926	75.7
Blood in urine	222	18.2	889	72.7
Painful micturition	295	24.1	905	74.0

Table (4) illustrates that university female students' awareness improved regarding STDs symptoms after implementation of the educational intervention than before. Most of them (92.4% & 91.8%) improved in their awareness regarding the symptoms of lower abdominal pain and unusual vaginal discharge respectively.

Table 5. Total university female students' awareness scores regarding STDs n= 1223

Awareness level	Test time n = 1223				Test of significance	P-value*
	Before implementation of the educational intervention (1223)		Immediately after implementation of the educational intervention (1223)			
	No.	%	No.	%		
General Awareness of STDs (27 marks)						
Good	0	0	1020	83.4	x ² = 1897.257	0.000
Fair	418	34.2	202	16.5		
Poor	805	65.8	1	0.1		
□±SD	8.77±2.38		23.25±4.02		t= 110.875	0.000
Awareness about signs and symptoms of STDs (9 marks)						
Good	65	5.3	864	70.6	x ² = 1120.895	0.000
Fair	322	26.3	142	11.6		
Poor	836	68.4	217	17.7		
MD	2.00		9.00		z= 25.941	0.000
Total score of Awareness (36 marks)						
Good	1	0.1	1075	87.9	x ² = 1994.346	0.000
Fair	459	37.4	148	12.1		
Poor	763	62.4	0	0		
□±SD	11.639±3.64		30.397±4.805		t= 117.497	0.000

Good = Scores more than 65% of total scores.

Fair = Scores 50% to 65% of total scores.

Poor = Scores less than 50% of total scores.

□ (SD) = Mean (Standard Deviation)

MD = Median

z for Wilcoxon Signed Ranks test

t for Paired t test

x² for Chi-square test

P Significance

* Significant (p≤ 0.05).

Table (5) illustrates that majority (83.4% & 87.9%) of university female students scores improved in their general awareness and total awareness of STDs. Also, more than two-thirds (70.6 %) improved in their awareness score regarding signs and symptoms of STDs after implementation of the educational intervention than before with highly statistically significant differences.

V. Discussion

Lack of awareness and complexities of the issue of sexually transmitted diseases, pressure to manage other significant health issues and the inability of health strategy producers to interact with diseases related to sexual activity leads to disregard.

The present study was implemented to evaluate the effect of an educational intervention on raising awareness of sexually transmitted diseases for University Female Students. The study revealed that majority of the studied students had lacked awareness of sexually transmitted diseases and had misunderstandings. When we asked students about general information about sexually transmitted diseases, we found that most of the students have lack knowledge regarding definition, causative agent, risk factors and prevention. In conjunction to our research result, a cross-sectional study directed to 5040 participant young people around 18 and 25 years of age in Saudi Arabia indicated that there was a lack of awareness of the participants about the kinds, routes of transmission and preventive measures from STDs and their interest in finding out more about it. (20) In addition to (Al-Batany, 2016) (18) which indicated that the married employee women in Qassim, Saudi Arabia had low level of knowledge and misconceptions on STDs. Another research in in Jeddah, Saudi Arabia on 487 person aged ranged from 18 to 25 years found that there is lack of STDs related awareness and have mistaken beliefs. (7) In line with prior research found inaccurate or lack of awareness about sexuality, modes of transmission of STDs. In the present study, we found that majority of female students at university get their source of information regarding sexual transmitted diseases from the social media. This study finding is congruent with (21, 22, 23, 24) who reported that most common sources for getting information were primarily media or social networking sites rather than school education. Many studies was harmonized with our finding that found the main source of information of the participants were internet, books, TV/Radio, friends and newspapers. This

could have to happen with the reality that STDs are not portion of school curriculum, and that instructors are often hesitant to teach it. ^(7, 25)

The benefit of educating teenagers from a younger age is because they are ready to pass through a complete, well-protected sexual life and informed about the threats they may face. This teaching should start before adolescence and continued throughout adolescence and youth. ⁽²⁶⁾ The findings of the present study designated highly statistically significant differences between pre and post an educational intervention ($p = 0.000$). Findings identical to ours are achieved by gaining awareness in the research conducted out by the authors in an educational intervention of the Technical Professional Education School in adolescents. ^(27, 28) In addition, there is a significant increase in the level of awareness showing the effectiveness of an intervention in 49 medical technology students (12th grade) in Cuba. ⁽²⁹⁾ In addition to (Morales et al., 2018) who found that the used strategies have been successful in raising awareness of sexual health, fostering a positive attitude regarding HIV and measures of prevention. ⁽³⁰⁾ Moreover, in opposition to our findings (Abolfotouh, 1995) found an unsuccessful improvement in awareness of the 335 students who had been subjected to a one-session AIDS seminar class as well as a control group of 503 students who had not been subjected to a lecture until that time in the Asir region of Saudi Arabia. ⁽³¹⁾

VI. Conclusion

The applied educational intervention is effective to raise awareness of sexually transmitted diseases for university students.

VII. Recommendations

Based in the study findings, certain recommendations have been suggested:

- An educative syllabus about STDs must be educated in high for both gender school students before Joins with University.
- Raising awareness of STDs by social media should be under control of professional specialist in this field

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Amel Ahmed Elsayed. "An Educational Intervention for University Female Students to Raise Sexually Transmitted Diseases Awareness." IOSR Journal of Nursing and Health Science (IOSR-JNHS), vol. 8, no. 06, 2019, pp. 39-45.