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THE EFFICACY OF LEARNING PACKAGE REGARDING VAGINAL INFECTION AND ASSOCIATED RISK HEALTH BEHAVIORS AMONG FEMALE UNIVERSITY STUDENTS

Amany Ali Abd El-Salam[1], Abeer Mohamed Emaghwery Eldeeb[2*], Fatma zaki Frahat[3]

[1]*Faculty of Nursing, Menofia University Nursing, Egypt*
[2]*Faculty of Nursing, Beni-Suef University, Egypt*
[3]*Faculty of Nursing, Port-said University, Egypt*

[*]*Corresponding Author's Email: eldeeb1973@yahoo.com*

ABSTRACT

Vaginal infection is an important females' health problem which is also associated with different negative impacts on sexual and family lives. However, genital hygiene is the major component of women's health and is very important for the protection of reproductive health. **Aim:** The study aims to determine the efficacy of learning package regarding vaginal infection and associated risk health behaviors among female university Students. **Methods:** Quasi–experimental study design. Samples of 107 students are involved in the study using stratified sampling technique. **Tools:** An interviewing Questionnaire sheet was developed by the researcher to collect data including the socio-demographic characteristics of student. Knowledge assessment sheet: was developed by the researcher to assess the knowledge regarding, biological health aspects and vaginal infection. Health practices sheet was given to female university students regarding preventive measures of vaginal infection which included questions about the healthy practices, related to perineal and menstrual hygiene. **Results:** The study revealed a highly statistically significant difference regarding total knowledge score level and practice in pre-intervention and post-intervention among the female students, which indicated an improvement in their knowledge about vaginal infection. **Recommendation:** Further researches are needed to investigate the incidence, contributory factors leading to vaginal infection and the adequate preventive interventions. Also develop strategies towards improving female adolescent's students' health awareness and provision of appropriate reproductive health services.

Keywords: Learning Package, Vaginal infection, Health Behavior, Female University Students

INTRODUCTION

Vaginal infection is an important females' health problem which is also associated with several negative impacts on sexual and family lives. However, genital hygiene is the major component of women's health and is very important for the protection of reproductive health (Workowski, Berman & Centers for Disease Control and Prevention, 2010; Hamed, 2015).

Vaginitis often is caused by infections, which cause distress and discomfort. Some infections are associated with more serious diseases. It is an inflammation of the vagina in which bacterial vaginosis, vulvovaginal candidiasis and trichomoniasis are the most vaginitides. It is the most frequent gynaecologic diagnosis encountered by physicians who provide primary care to women (Aubyn & Tagoe, 2013; Bitew *et al.*, 2017). Vaginal infection is a part of reproductive tract infection (RTI), as it is recognized as a major public health problem that causes a variety of problems for women at different ages (Rabiu *et al.*, 2011).

On the other vaginitis has a tendency of increasing prevalence worldwide. The prevalence and causes of vaginitis are uncertain, in part because the condition is

so often self-diagnosed and self-treated. Nearly 5–10 million females seek gynecologic advice for vaginitis every year worldwide (Aubyn & Tagoe, 2013; Bitew *et al.*, 2017).

Moreover, every year, approximately 100 million women worldwide are exposed to genital infections including urinary tract infections and bacterial vaginosis and 75.0% of women have a history of a genital infection. Studies involving different levels of society report the prevalence of abnormal vaginal discharge as 12.1% to 30% Infection of the female genital tract can result in vaginitis, cervicitis and urethritis, and trichomoniasis has been associated with adverse pregnancy outcome (Hamed, 2015).

Vaginitis occurs due to different causes such as: an alteration in the normal vaginal defense mechanisms such as vaginal flora (*Lactobacilli*), vaginal pH and vaginal squamous epithelium layer allergy to underclothes, feminine hygiene products, vaginal douches and occupational exposure. Also, Non-infectious causes include vaginal irritation due to tampons, sanitary napkins, traumatic by foreign body inserted into the vagina, and contact dermatitis of the vulva caused by friction from pants and restricted presses jeans. Some vaginal infections are transmitted through sexual contact, but others such as yeast infections probably are not, depending on the cause (Ramirez-Santos, Pereiro & Toribio, 2010; Rabiu *et al.*, 2011).

In addition infectious vaginitis which accounts for 90% of all cases of vaginal infections at the reproductive age its caused by one or more of the following organisms: by *Candida albicans* (*C. albicans*) as a yeast, Bacterial vaginosis (BV) caused by *Gardnerella vaginalis* (*G.vaginalis)* as bacteria and *Trichomonas vaginalis* (*T. vaginalis*) as protozoa (Ram *et al.*, 2011).

Moreover infection is more likely caused due to reduced acidity either endogenously by hormones or exogenously by vaginal unhygienic practices as poor menstrual hygiene and the use of reusable cloth, in addition to the personal unhygienic behaviors such as keeping the genital area moist, using contaminated towels, and using irritating and tight nonabsorbent underwear (Mohamed *et al*., 2015). The recurrence of vaginal infection is defined by four or more episodes of infection in a year; this is due to bad personal hygiene behaviors (Berek *et al.*, 2010).

Genital hygiene is the major component of females' health and is very important for the protection of reproductive health. The genital area should be kept clean but excessive cleaning procedures which disturb the vaginal flora should be avoided (Chauhan *et al.*, 2014).

Health behaviors are conducted with hygienic behaviors, the term "hygiene" which is derived from Hygieia, the Greek goddess of health, cleanliness and sanitation refers to practices and behaviors associated with ensuring good health and cleanliness, (Gor, 2017). The primary role of the nurse in managing vaginal infections is to provide health education in order to modify the health behaviors and to prevent the occurrence as well as recurrence of vaginal infections (Ricci & Kyle, 2011).

Concern has been raised by WHO (2015) about whether vaginal practices and behavior could have a harmful effects such as; increasing the susceptibility to vaginal infection. They recommend that more evidence is needed to confirm a correlation between an increased risk of vaginal infection and vaginal practices, to discourage harmful practices, but which are modifiable through health education and prevention messages.

Finally, the researchers founded that in order to change the female health behavior through education firstly, it is necessary to collect enough information of health behavior in society. Health services members have an important role in increasing knowledge and improving behaviors of community in prevention of common genital tract infection.

Significance of the study

According to the estimates of the WHO (2015), reproductive health problems accounted for 18 percent of the total global burden of diseases in 2015. Representing 32% of the health burden among women in the childbearing age group worldwide. In developing countries incidence and prevalence of reproductive tract infection are very high, they rank second as the cause of morbidities among women of reproductive age, next to maternal morbidity and mortality related causes (Rabiu *et al.*, 2010). Egyptian female's university students receive insufficient reproductive health education through the formal education in

schools and university system (Hanafy *et al.*, 2012).

Research questions:

1- Do female university students have correct knowledge regarding vaginal infection?

2- Do female university students have healthy behaviors regarding prevention of vaginal infection?

3- Do prevention program affect health behaviors of female university students regarding prevention of vaginal infection?

RESEARCH METHODOLOGY

Aim of the study

The study was aimed to determine the efficacy of learning package regarding vaginal infection and associated risk health behaviors among female university Students

Research Design

The study design was quasi – experimental design.

Setting

The study was conducted at faculty of Nursing Beni-Suef University.

Sample

The sample used in the study was non-probability sampling (purposive sampling). The study was conducted between February and March 2017. A total 107 students were involved in the study using stratified sampling technique.

Criteria of the sample

1) Female university students
2) Age range between 18-22 years
3) Single and/or newly married
4) Free from any medical diseases

Data collection tools:

Data collection was done through use of the following tools

Part 1: Structured interview sheet

This was designed to collect data from study sample regarding to:

A- Socio-demographic Characteristics: including age, marital status, monthly income and home sanitary conditions which includes (type of home, source of drinking water, sewage disposal, bathroom, and home ventilation)

Part 2: Knowledge assessment sheet: It includes both open & closed ended questions pertaining to assess knowledge about:

A- Genital hygienic practices, includes questions about vaginal infection regarding definition of vaginal infection, causes, risk factors, signs and symptoms, types and complications.

Part 3: Health practices sheet: used for female university students regarding prevention of vaginal infection which encompasses questions about the healthy practices related to:

A- Perineal hygiene includes questions concerning cleaning perineal area, methods of cleaning, direction of cleaning, dryness of perineal area, and removal of pubic hair.

B- Menstrual hygiene, includes questions about using pads during menstruation, frequency of changing pads, and shower during menstruation and using perfumed materials on perineum.

C-Suitability and care of underwear includes questions about type of underwear, changing underwear, and ways of cleaning underwear.

D-Health Assessment of married students. It was related to vaginal douching, vaginal hygiene after sexual intercourse which includes routes of cleaning the vagina before and after intercourse.

Validity and Reliability of tool: - Tool was developed based on the identified needs and demands of the study sample. Content validity was done through five experts from Faculty Members of Community Health Nursing, Maternal and Newborn Health Nursing.

Pilot study: was carried out on twenty female students to assess the tool clarity, applicability, and time needed to fill each sheet. The pilot study was excluded from the main study sample.

Ethical consideration: All relevant ethical aspects were considered for ensuring female students' privacy and confidentiality of the collected data through; gaining oral consent for participation in the study, explaining the purpose of the study, right to refuse to continue participation.

Field work: After gaining approvals for conducting the research from Dean Faculty of Nursing Beni-Suef University and coordination with students' Affairs officer in gaining information about students' schedules and times of lectures. The researcher explained the aim of the study, and the questionnaire content. From the beginning of current study till analysis of results, the study took two months for data collection, health educational program, and analysis of data collected from February and March 2017. A health educational program was done about vaginal infections among female Students. After collecting literature reviews about vaginal infections which included definition, causes, signs and symptoms, complications, protection, prevention of vaginal infections, and treatment. In addition, perineal hygiene, menstrual hygiene and biological health aspect, such as anatomical structure of the female reproductive system and knowledge about menstruation, hormones, and normal vaginal discharge. A health educational program was done through 3 phases as following given below: -

I. Assessment phase: In this stage, the researcher conducted a pretest to clarify and assess the students' knowledge, healthy behaviors and health practices towards vaginal infections. Using tool of data collection before starting health educational program. The tool was filled in about 10 minutes to 20 minutes.

II. Educational program development phase: The program was developed based on the identified needs and demands of students gathered in phase I, in the light of the most recent pertinent literature. This phase included the following; theoretical session was carried out with discussion (10 minutes) to assess students' feedback and their knowledge about healthy behaviors and health practices towards vaginal infections. Then the researcher started the education time. After the session break time was given to them (10 minutes) followed with discussion to assess students ' level of understanding (10 minutes). The program consisted of two sessions. *The first session* outlined as definition, causes, signs symptoms, and complications. *The second session* including treatment, protection and prevention from vaginal infections to modify students 'health behaviors.

III. Finally evaluation phase: After finishing health educational program researcher done posttest to assess and evaluate the students' level of knowledge regarding vaginal infections with the same tool which was used at pretest phase. Also, during the program researcher distribute guiding booklet about vaginal infections for every participant student included in the study and were attended health education program.

Statistical design: The collected data was analyzed and tabulated using the number and percentage distribution; mean and standard deviation using Statistical Package for Social Science (SPSS) version 16. Data were presented using proper statistical tests that were used to determine whether there were significant relations.

RESULTS

Table 1: Distribution of demographic characteristics of the studied female students (n=107)

Demographic characteristics	No	%
Age in years		
18-<20	94	87.9
20-22	13	12.1
Mean ±SD	**18.69±1.20**	
Marital status		
Married	27	26.5
Single	80	73.5
Housing condition (according student description)		
Healthy	88	82.2
Unhealthy	19	17.8
Income monthly (from student point of view)		
Enough	81	75.7
Not enough	26	24.3

Table 1 illustrates that (87.9 %) of female students were recruited at age group from (18-20) years old, with mean age of (18.69±1.20). In addition (26.5%) were married, (82.2 %) lives in healthy house according to their stated description and (75.7%) have enough income monthly from student point of view.

Table 2: Distribution of Female Students according to their General Knowledge Score Level About External Genital Infection (n=107)

Knowledge	Pre-intervention				Post-intervention				Chi square test	*P* value
	Incorrect		Correct		Incorrect		Correct			
	No	%	No	%	No	%	No	%		
Definition of genital infection	89	83.2	18	16.8	13	12.1	94	87.9	108.19	<0.001**
Symptoms of genital infection										
Severe itching	77	72.0	30	28.0	9	8.4	98	91.6	89.89	<0.001**
Redness and swelling in the vulva	91	85.0	16	15.0	5	4.7	102	95.3	139.72	<0.001**
Whitish patches on the vulva	91	85.0	16	15.0	8	7.5	99	92.5	129.49	<0.001**
Vaginal discharge	67	62.6	40	37.4	12	11.2	95	88.8	60.69	<0.001**
Small crack on the skin	75	70.1	32	29.9	11	10.3	96	89.7	79.62	<0.001**
Causes of genital infection										
Using of product increase sensitivity such as perfumed soap and colored toilet paper	83	77.6	24	22.4	13	12.1	94	87.9	92.56	<0.001**
Using public bathes	69	64.5	38	35.5	10	9.3	97	90.7	69.84	<0.001**
Don't change pad during menstruation	83	77.6	24	22.4	6	5.6	101	94.4	114.05	<0.001**
Weakness of immunity	83	77.6	24	22.4	8	7.5	99	92.5	107.54	<0.001**
Bacteria, parasites and fungi	64	59.8	43	40.2	13	12.1	94	87.9	52.76	<0.001**
Dryness with used clothes	67	62.6	40	37.4	13	12.1	94	87.9	58.21	<0.001**
Complications of external genital organ infection										
Occurrence of lump	64	59.8	43	40.2	13	12.1	94	87.9	52.76	<0.001**
Dystrophy on the vulva	62	57.9	45	42.1	10	9.3	97	90.7	56.59	<0.001**
Infertility	80	74.8	27	25.2	6	5.6	101	94.4	106.45	<0.001**
Cancer in external genital organ	80	74.8	27	25.2	10	9.3	97	90.7	93.96	<0.001**
Internal genital organ such as inflammation in uterus and fallopian tube	56	52.3	51	47.7	13	12.1	94	87.9	39.54	<0.001**

Table 2 shows that (83.2%) of female students had incorrect definition of genital infection. Most of the students had unsatisfactory knowledge score levels in relation to items related to external genital infection which includes, symptoms, causes and complications. A highly statistically significant difference was found regarding all items in pre and post-intervention (*P* value <0.001**).

Table 3: Pre-& post Intervention of the Studied Female Students Regarding Preventive Measures of External Genital Infection (n=107)

	Pre-intervention				Post-intervention				Chi square test	*P* value
	Not done		Done		Not done		Done			
	No	%	No	%	No	%	No	%		
Frequency of cleani ng of genital area after each toilet	64	59.8	43	40.2	26	24.3	81	75.7	27.69	<0.001**
Direction of perineal care from front to back	63	58.9	44	41.1	29	27.1	78	72.9	22.04	<0.001**
Careful about dryness of genital area after cleaning	63	58.9	44	41.1	32	29.9	75	70.1	18.19	<0.001**
Frequency of removing the pubic hair	65	60.7	42	39.3	34	31.8	73	68.2	18.06	<0.001**
Wear cotton under wear	69	64.5	38	35.5	22	20.6	85	79.4	42.23	<0.001**
Wear loose underwear	50	46.7	57	53.3	23	21.5	84	78.5	15.15	<0.001**
Continuous change of underwear	83	77.6	24	22.4	14	13.1	93	86.9	89.77	<0.001**
Laundry the underwear before wear	67	62.6	40	37.4	33	30.8	74	69.2	21.70	<0.001**
Add antiseptic solution to water during washing.	49	45.8	58	54.2	18	16.8	89	83.2	20.88	<0.001**
Expose clothes to sun rays	92	86.0	15	14.0	10	9.3	97	90.7	125.95	<0.001**
Use napkins	59	55.1	48	44.9	31	29.0	76	71.0	15.03	<0.001**
Careful about using personal hygienic instrument	83	77.6	24	22.4	29	27.1	78	72.9	54.62	<0.001**
Expose personal hygienic instrument to sun rays	63	58.9	44	41.1	35	32.7	72	67.3	14.75	<0.001**
Avoid using of public bathes	65	60.7	42	39.3	9	8.4	98	91.6	64.77	<0.001**

Table 3 reveals that, there were statistical significant deference among the female students regarding the preventive measures of genital infection in pre-& post intervention (*p* value <0.001**).

Table 4: Pre-& post Intervention of the Female Students Regarding Menstrual Hygiene Practice (n=107)

Practice	Pre-intervention				Post-intervention				Chi square test	*P* value
	Not done		Done		Not done		Done			
	No	%	No	%	No	%	No	%		
Frequently wash ing hands before and after toilet	92	86.0	15	14.0	18	16.8	89	83.2	102.4	<0.001**
Frequent bathing during menstruation	57	53.3	50	46.7	30	28.0	77	72.0	14.11	<0.001**
Disinfect or clean toilet before and after use	69	64.5	38	35.5	23	21.5	84	78.5	40.34	<0.001**
Use sanitary pads	78	72.9	29	27.1	22	20.6	85	79.4	58.86	<0.001**
Sanitary pad s made from cotton	86	80.4	21	19.6	19	17.8	88	82.2	83.93	<0.001**
Change pad after each bath	63	58.9	44	41.1	35	32.7	72	67.3	14.75	<0.001**
Change pad every 4 hours especially in 1st days then 8hours	64	59.8	43	40.2	15	14.0	92	86.0	48.17	<0.001**

Table 4 reveals that, there were statistical significant deference among the female students practice regarding menstrual hygiene in pre-& post intervention (*p* value <0.001**).

Table 5: Pre-& Post Intervention of the Studied Married Students to Pre and Post-Coital Hygiene Practice (n=107)

Pre-intervention				Post-intervention				Chi square test	*P* value
Not done		Done		Not done		Done			
No	%	No	%	No	%	No	%		
90	84.1	17	15.8	18	16.8	89	83.2	101.4	<0.001**
57	53.3	50	46.7	30	28.0	77	72.0	14.11	<0.001**
40	37.4	67	62.6	107	100	0	0	17.98	<0.001**

Table 5 showed that, most married students in the studied sample did not perform pre-coital and post-coital care in pre-intervention compared with post-intervention (84.1%, 53.3% vs. 83.2%, 72% respectively).

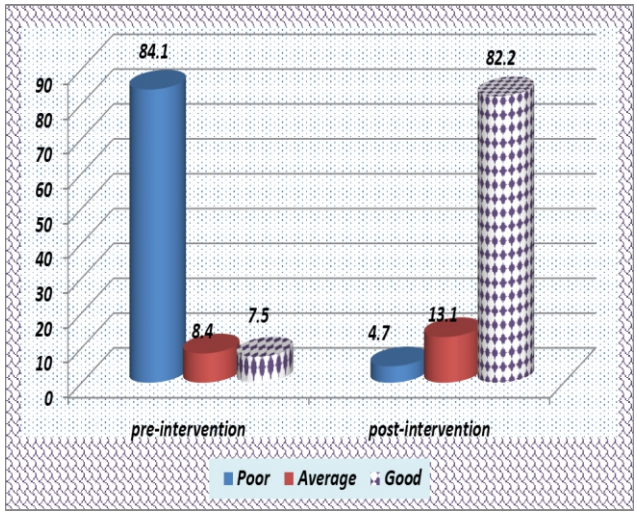

Figure 1: Percentage distribution of Total Knowledge Score of the Studied Female Students Regarding External Genital Infection

Figure 1 The figure shows that (84.1%) of student female had poor knowledge in pre-intervention compared with (83.3 %) of them who had good knowledge in post-intervention.

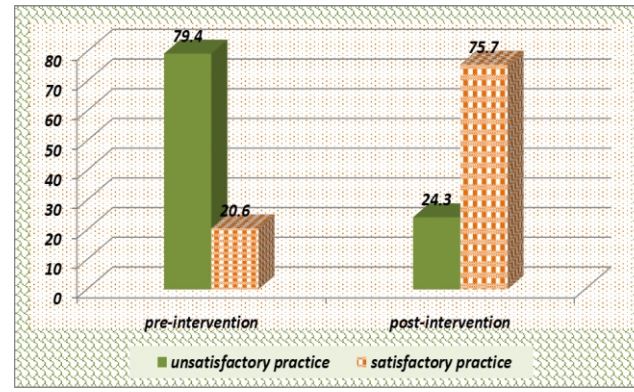

Figure 2: Percentage Distribution of Total Practice Score of the Studied Female Students Regarding External Female Genital Infection.

Figure 2 Reveals that only (20.6%) of studied students had satisfactory practice in pre – intervention compared with (75.7%) at post intervention.

Table 6 Statistical Correlation between Female Students' Total Knowledge Score Level and their Total Practice Score Level (n= 107)

Variable	Total pre-practice score level		Total post-practice score level	
	Chi square test	*P*-value	Chi square test	*P*-value
Total pre - knowledge score level	0.144	>0.05	-	-
Total post -knowledge score level	--	--	0.481	<0.001**

Table 6 reveals that, there were Highly statistical significant deference among the female students total post-practice and total post-knowledge score level regarding post intervention (*p* value <0.001**).

DISCUSSION

Genital tract infections are diseases that threaten female's health. Prevention of these infection is very important in the community, so the need for education and consultation for effective prevention and they must be considered as a core of any reproductive and sexual health care program. To change the people health behavior through education firstly it is necessary to collect enough information of health behavior in

society (Abd-Ella, 2014).

Regarding socio-demographic characteristics of the studied female students, the results presented that, the mean ages of the students were 18.69±1.20 years. This result is in line with Busair, (2012) who considered this age as a risk factor to vaginal infection and also, he mentioned that younger female was vulnerable to significantly high rates of vaginal infections, and its complications.

Regarding the female student's general knowledge about the external genital infection, it was evident from the results of the study that most of the female students in the study had unsatisfactory knowledge score level in the pre-test about definition of vaginal infection. This may be attributed to insufficient basic information gained from their academic study. Lack of knowledge also may be due to the fact that female student themselves suffer from lack of information about reproductive problems and may feel shame in discussing such issues Ali *et al.*, (2006). Traditionally in Egypt, the girls were shielded from information about reproductive organs and their problems until the time of their marriage.

Concerning the preventive measures of external genital infection, it was evident from the result of the study that most of the student had unsatisfactory knowledge in pre-intervention. This result agrees with Petrova *et al.*, (2015) who mentioned that half of female student did not follow preventive measures of genital infection. This may be due to the insufficient knowledge and lack of awareness about hygienic practices that negatively affects on their knowledge and practice level.

Regarding the causes of genital infection most of the students in post intervention did not use the products that increase sensitivity to genital tract such as soap. This finding is in accordance with Renju, (2010) who reported that, using different commercial products may increase risk for infection by disturbing the genital flora.

Concerning the general knowledge score level of the studied female students regarding genital infection, the results showed that most them had unsatisfactory knowledge in the pre-intervention about symptoms, causes and complications of genital infection. This finding reflects the importance of reproductive health education that should be considered as part of the school curriculum, for improving knowledge and reducing reproductive health problems among student female. This finding in agreement with Goudia *et al.*, (2017) who reported that the instructional program has positive effect on knowledge regarding Vulvovaginal Candidiasis among female university students. Also, our study is in line with Ibrahim *et al.*, (2007), who mentioned that most of the female students had unsatisfactory knowledge score level about genital tract infections and only very few students had satisfactory knowledge score level.

Regarding preventive measures of external genital infection, the present study revealed that more than one third of the studied students in post-intervention wear cotton under wear, laundry it before wear and continuous change it. This finding is in line with Petrova *et al.*, (2015) who revealed that, the type and cleanliness of the underwear as well as the frequency with it is changed are important factors regarding the risk of getting a infection. Nylon and synthetic underwear does not absorb perspiration as much as the cotton underwear, causing the perineum to remain humid and leading to increased risk of genital tract infections. In addition, Han *et al.*, (2016) added that, changing the underwear frequently is critical in preventing genital infection.

Regarding direction of perineal care, it was evident from the results of the study that seventy two percent of studied female students had clean and dry the genital organ from front to back in post-intervention. This may be attributed to sufficient information gained from the educational program about this topic. This finding in line with Rabiu *et al.*, (2010) who have similarly found less frequency of genital infections among females who practiced a correct technique of genital cleanness and also keep the genital area dry after cleaning. Also, Prusty & Unisa, (2013) added that, wrong perineal hygiene practices (from back to forward) may lead to infections due to transfer of microorganisms from the anus to the vagina.

The current study revealed that eighty-three percent of the female student in the post-intervention washed their hands before and after toilet. This result agreement with El-El-Beih *et al.*, (2013) who showed that there was positively correlation between having satisfactory /unsatisfactory knowledge and healthy /unhealthy practices and mentioned that, when knowledge improves, practice tend to be healthier (hygienic). In our opinion the females should be given special attention to their hand hygiene especially after toilet.

Concerning menstrual hygiene practice the result showed that seventy two percent of the studied female student in post-intervention bathed during menstruation. This finding is in accordance with Jahanbin, (2014) who reported in a study done in Turkey, which has shown that, the rate of female students in high school who were taking a bath during their menstruation was sixty eight percent. Moreover, in Saudi Arabia it is found that two thirds of the female are avoiding some form of foods, drinks, activities, bathing and perineal washing during their menstruation. Also, the findings revealed that sixty-seven percent of students in post intervention change the pad after each bath. This may be due to increase awareness from health education program. This finding in agreement with Prasad *et al.*, (2015) who mentioned that, frequent change pads are essential during menstruation in which genital infections are higher among females who do not changing pads daily at appropriate intervals because it increase the humidity of the genital area especially during the periods which leads to increased risk to infections.

Regarding post-coital hygiene practice, the finding showed that most married students in the study have done pre and post coital care in post-intervention. This might be explained that married students have a higher level of knowledge about genital hygiene practice especially after health education program which is needed to maintain reproductive health. This finding is supported by Bobhate & Shrivastava, (2011) whose were reported that, for coital hygiene practice the infected women is a person who were less likely to practice pre or post-coital care. The women that clean perineum externally before coitus this one helps to prevent vaginal infection and manage undesirable vaginal odor.

The present study founded that there are statistical significant relationship between knowledge score level and practice among studied female participants regarding external genital infection. This finding in the same line with Salhan (2011) who carried out a study in India and reported that there was a positive correlation between students who are having satisfactory knowledge and their health practice in pre and post intervention. This might be explained that, when knowledge improves the practice tend to be healthier (hygienic). Also, Yarmohammadi *et al.*, (2015) who added that, personal attitude about health practice have an effective role in order to perform appropriate health behavior, so teaching programs about health can increase the level of knowledge, attitude changing into better practice.

CONCLUSION

The study revealed a highly statistically significant difference regarding total knowledge score level and practice in pre-intervention and post-intervention among the female students, which indicated an improvement in their knowledge about vaginal infection.

RECOMMENDATIONS

1-To improve the actual situation, we recommend promoting a health educational program for the female students through workshops and training programs about prevention of vaginal infections.

2-Further researches are needed to investigate the incidence, contributory factors leading to vaginal infection and the adequate preventive interventions as well as complications of vaginal infection. Also develop strategies towards improving female adolescent's students' health awareness and provision of appropriate reproductive health services.

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