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The Effect of Instructional Guidelines on Sexual Function among Women with Vaginal Yeast Infection

Samar Hussein Mohamed[1], Nadia Mohamed Fahmy[2], Shaimaa Hassan Mohamady[3].

(1) Bachelor of Nursing Cairo University, Clinical Instructor at 15 May Nursing Technical Institute, Egypt.

(2) Professor of Maternal and Newborn Health Nursing Faculty of Nursing – Ain shams University, Egypt.

(3) Professor of Maternal and Newborn Health Nursing Faculty of Nursing – Helwan University, Egypt.

Abstract

Background: Vaginal yeast infections are a global health problem for women at reproductive age**. Aim of the study**: to evaluate the effect of instructional guidelines on sexual function among women with vaginal yeast infection. **Design:** Aquasi- experimental design was used. **Setting:** The study conducted at Helwan general hospital in gynecological clinic. **Sample:** A Purposive sample was used to conduct the study included 60 married women. **Tools:** four tools were used, **Tool. I:** A structured Interviewing questionnaire includes Part1 ‹General characteristic data, Part 2 Obstetrical history Part 3‹ Knowledge assessment questionnaire, **Tool II:** Reproductive women health practice practices. **Tool III:** Female sexual function index (FSF). **Tool IV:** Follow-up women regarding vaginal yeast infection: Results: more than two third of women had satisfactory knowledge post the guidelines, than the pre instructions. The majority of the studied women had incompetent practice‹ in pretest; while about two third had competent practice in the post test, studied women regarding women's sexual function the majority satisfied sexual function post guidelines than pre instructional, follow-up of the recurrence of vaginal yeast infection in women with vaginal infection more than half perform follow-up‹ post guidelines than pre **Conclusion:** Instructional guidelines had positive effect on sexual function among women with vaginal yeast infection. The results of the current study supported by the study hypothesis. **Recommendation:** Regular instructional sessions to increase awareness of women about health practice to prevent recurrence of vaginal yeast infection.

Key words: *Female Sexual Function, Instructional guidelines, vaginal yeast infection.*

Introduction

Genital tract infections are a prevalent problem among women. Vaginitis is the inflammation and infection of the vagina. Itching or irritation, unusually foul-smelling discharge, leucorrhea, and dyspareunia are some of the symptoms .Vulvovaginal candidosis (VVC) is a candida-related condition that affects millions of women each year. It is one of the most common vaginal infections in women, with serious consequences for the way of life, personal relationships, and sexual performance. Candida albicans causes 85-95% of vaginal yeast infections. ***(Otoo.,2024)***

A vaginal yeast infection is a fungal infection that causes inflammation, discharge, and severe pain in the vagina and vulva, the tissues that surround the vaginal opening. Vaginal yeast infection, also known as vaginal candidiasis, affects about three out of every four women at some time in life. Many women experience at least two episodes. Vaginal yeast infections are not classified as sexually transmitted infections. However, there is an increased risk of vaginal yeast infection during the initial stages of regular sexual activity. ***(Irene.,2023)***

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Sexual function is an essential component of each woman's life. Sexual health is gaining recognition for its impact on overall happiness and quality of life (QOL). Female sexual function disorders are multidimensional, impacted by factors such as general health, pharmaceutical use, or substance abuse, as well as relationship characteristics, cultural factors, socioeconomic status, and religious beliefs. Sexual troubles have a big impact on your mood, self-esteem, and quality of life. Can induce emotional distress, interpersonal problems, divorce, or even impair conception. ***(Umuerri.,2022)***

Guidelines to prevent yeast infection the vaginal disorder is clinically diagnosed and treated with antifungal medicines. Most easy problems are resolved within a few days. Women with persistent candida vaginitis require extended treatment. A seven-day course of intravaginal treatment is recommended. At the same time, women's education is crucial. The illness is not life-threatening, yet can lead to humiliation and withdrawal from sexual activity. It is also crucial to keep a wide differential diagnosis. Abuse, foreign bodies, cancer, immunological illnesses, inflammatory bowel disease, and sexually transmitted infections can all cause vaginal pain. If medication fails, the practitioner should always do further testing with caution. ***(Jeanmonod ., 2022)***

Maintain a dry and clean genital region. Avoid using soap and instead wash with water. Taking a warm shower, rather than a hot bath, may help with the symptoms. Many women feel cleaner after a period or sexual activity, but douching may increase vaginal discharge. Douching kills the healthy bacteria that border the vagina and help prevent infections. Use condoms to avoid catching or spreading further diseases. Do not use feminine hygiene powders, sprays, or perfumes to the genital area. Avoid wearing shorts or pants that are excessively tight. These may cause irritation and perspiration. Wear some cotton or fabric hosiery. Avoid wearing silk or nylon underwear. These might lead to increased vaginal sweat, which would promote yeast. ***(Blaganje., 2020)***

Significance of the study:

Candida albicans stays the leading cause of vaginal yeast infection. Vaginal swab samples were obtained from women with acute vaginal yeast infection in Qena, Egypt. The incidence of candida in women ranged from 16 to 60 years. Most of candida. Albicans (69.2%), candida tropicalis (75%), and candida krusei (100%) infections were found in women aged 21 to 34. In general, the risk of vaginal yeast infection with candida decreases as academic qualifications increase. The majority of affected women were illiterate or had poor education levels. ***(Hussein., 2019)***

Candida africana is considered the causal agent of vaginal yeast infection in several places. Candida albicans (72.1%), Candida glabrata (13.9%), Candida krusei (5.2%), Candida tropicalis (3.3%), Candida Africana (1.9%), Candida parapsilosis (1.9%), and Candida dubliniensis (1.3%) were the most common candida infections in Africa. (40.6%) of women had vaginal yeast infections. Africana candidiasis was reported in seven African nations, with Madagascar and Angola accounting for the bulk of cases. ***(Fakhim ., 2020)***

The incidence of recurrent valvo vaginal candida was investigated in five European nations and the United States. In Germany, more than 40% of women reported at least four acute episodes of valvo vaginal candida in a 12-month period. Recurrent vaginal candidiasis affects around 2.5 million individuals, and recurrent vaginal yeast infection is the second most common fungal illness in Germany, behind fungal skin disorders ***(Jacob., 2018).*** The study aims to assess the influence of educational guidelines on sexual function.

Aim of the Study:

The current study aimed to evaluate the effect of instructional guidelines on sexual function among women with vaginal yeast infection. The aim was achievement through the following objective.

1- Assess women knowledge regarding vaginal yeast infection.

2- Assess women health practices regarding vaginal yeast infection.

3- Apply the instructional guidelines on sexual function among women with vaginal yeast Infection.

4- Evaluate the effect of instructional guidelines on sexual function among women with vaginal yeast Infection.

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Research hypothesis:

Instructional guidelines had positive effect on sexual function among women with vaginal yeast Infection.

Research design*:* A quasi-experimental design one group (pretest and posttest) was used. In the current study. A quasi-experiment is one of several different treatment groups for the purpose of comparing the real-world effectiveness and safety of those non-randomized treatments. ***(Madadizadeh,2022)***

Setting:

The study was conducted in obstetric and gynecological clinic at Helwan general hospital Egypt.

Type of the sample:

A purposive sample of women with vaginal yeast infection in the pre mentions setting.

Sample size:

60 women suffering from vaginal yeast infection, period 6 month .With inclusion criteria: - Age range from 18 to 45 years. Married women، and with exclusion criteria, Pregnant women, Women with medical disorders.

Tools for data collection: Four tools were used for data collection.

Data collection was obtained by using the following tools:

Tool (I) A structured Interviewing Questionnaire designed by the researcher after literature review ***(Ebrahim.,2022)*** and ***(Abdelnaem,.2019)***. It used to assess general characteristic data and the data needed to be collected, it was written in English language translate to simple Arabic language to suit the women level of understanding, include three parts:

Part (1): General characteristic data consisted of (6) questions multiple choices and aimed to assess the married women general characteristic data such as. Age, educational level, residence, occupation, economic status.

Part (2): Obstetrical history consisted of (4) questions multiple choices. Such as (Number of pregnancy, number of labor, number of abortion, current contraceptive methods used)

Part (3): Knowledge assessment questionnaire, to assess women knowledge regarding vaginal yeast infection consisted of (9) questions multiple choices (Definition, cause, sign and symptoms, type of vaginal yeast infection, risk factor, complication, number of vaginal infection recurrence in the last three months, preventive measures for vaginal infection , marital problems due to vaginal infections.

Scoring system of knowledge

Each item was scored as 1 for each answer correct, zero for answer incorrect. A possible total score 9 and classified as the following; unsatisfactory knowledge when the total score was < 60% and satisfactory knowledge when the total score was ≥ 60%. ***(Ebrahim., 2022)***

Tool(II): Reproductive women health practices sheet.

Health practices designed by the researcher, the tool consist of genital hygiene a habits among women with candida vaginal infection consisted of (16) question genital Practice (Not done, done) such as (cleaning the genital area after entering the bathroom every time, drying the perineal area after bathing. Wear loose cotton clothes, constant change of underwear so that it is not an environment for infection. Use a disinfectant for cleaning. The antiseptic materials used may cause irritation to the genitals. Use a depilatory cream, washing underwear with warm water and soap, exposing clothes to sunlight, ironing clothes before wearing them. Using tissues for drying, using used clothes for drying, using daily pads, washing hands after every time entering the bathroom, Rinsing after sexual intercourse, cleaning the vagina from the inside after sexual intercourse.

Menstruation practice consist of (10) question Taking a shower during menstruation, cleaning the vulvar area while showering, shower standing up, taking a shower while sitting, cleaning and disinfecting the place of urination after entering the bathroom, using a sanitary napkin, sanitary napkins are made of cotton, leaving sanitary pads for a long time using common hygiene means with the sisters, exposing hygiene products to the sun.

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Scoring system reproductive women health Practices.

Each item was scored as zero for not done, 1 for done; the score of practice was reversed. . A possible total score ranged from zero to 26 and classified as the following; inadequate practice when the total score was < 50% and adequate practice when the total score was ≥ 50%. ***(Felix.,2020)***

Tool (III): Female sexual function index (FSFI).

Adopted designed, the aim to assess female sexual function, It was written in English simple language translate to Arabic language to suit the women level of understanding, consist of (26) questions with multiple-choice responses to assess sexual function in the last four weeks, associated with six domains and possible types of disorders: (a) desire, (b) arousal, (c) lubrication, (d) orgasm, (e) satisfaction with sexual life, and (f) pain during or after intercourse. Sexual activity in the last four weeks.

Scoring system:

The FSFI-6 is a 6-item, brief, and self-administered instrument derived from the original 19-item FSFI that measures female sexual function. Comprises six domains: desire, arousal, lubrication, orgasm, satisfaction, and pain. Desire and satisfaction items are rated on a 5-point Likert scale, Ranging from 1 to 5, total scores range from 1 to 6, with lower scores indicating worse sexual functioning. ***(Maroufizadeh.,2020)***

Tool(IV): Follow-up women regarding vaginal yeast infection:

Designed by the after literature review ***(Felix.,2020)*** *and* ***(Gweda.,2021)*** researcher the aim to assess the frequency of vaginitis recurrence through one question if vaginitis recurrent was conducted posttest after three months. It was written in English simple language translate to Arabic language to suit the women level of understanding, consisted of (8) questions multiple choices.

Each item was scored as zero for not done, 1 for done, a possible total score ranged from 5 to 8 and classified as the following. Unsatisfactory practice when the total score was < 50% and satisfactory practice when the total score was ≥ 50%. ***(Russo.,2019)***

Validity:

The developed tool was ascertained by a group of three experts in maternal and newborn health nursing, opinions elicited regarding the format, layout, consistency, accuracy and relevancy of the tool to measure the content validity of the tool.

Reliability:

Reliability was tested by using cronbach's alpha coefficient test; women's knowledge regarding vaginal infection. 0.908, Self-care practice for vaginal infection 0.771, Female sexual function index (FSFI) 0.709 and Follow-up of the recurrence of vaginal infection in women with vaginal infection 0.778.

Ethical considerations:

Ethical approval was obtained from the scientific research ethical committee at faculty of nursing, Helwan University. The researcher was met the director of the selected hospital to clarify the aim of the study and take women informed consent. The researcher also met. The study subject to explain the purpose of the study and to obtain their approval to participate married women was reassured about the confidentiality of the data collected. The women right to refuse to participate or to withdraw from the study at any time.

Pilot study:

A pilot study was carried out on 10% (6) of the married women to test the applicability, feasibility clarity of questions and time needed to complete the study tools. The pilot had also served to estimate the time needed for each subject to fill in the questionnaire. According to the results of the pilot, no correction items were performed.

Field work:

An oral informed consent was obtained from each informal consent to the data collection after explaining the aim of the study. Data collection started and completed within six months from the beginning of (November 2022 until the end

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of April 2023). The researcher visited the previously mentioned place two days per week (Saturday, and Wednesday) in the morning between 9.00 AM to 12.00 PM. Each patient took about 20-30 minute for in-reviewing and completing the interviewing questionnaires including demographic data, the current study was achieved through four phases: Assessment phase, planning phase, implementation phase, evaluation phase.

Assessment phase:

The researcher introduced herself to each woman explaining the purpose of the study and explained the tools content. Oral approval of women to share in this was achieved. The researcher provided an overview and clarification about the pretest consist of three tools (Tool I a structured Interviewing questionnaire socio-demographic data, Tool II Reproductive women health Practice sheet, Tool III Female sexual function index (FSFI) , Tool IV Follow-up women regarding vaginal yeast infection the questionnaire took about 15 to 20 minutes to be completed.

Planning phase:

After assessing the women knowledge, practices and their quality of life regarding vaginal yeast infection by pretest interviewing questionnaire. The total sample (60) was divided into small groups 4 groups each group ranged from (12-15) women. The total number of educational program sessions was 16 sessions, two sessions for each group (2 days/week), each session was conducted for two hour.

Implementation:

Women were given health education sessions given to the women in the form of lectures and group discussion by using audio-visual aids, it emphasized on improving women knowledge and self-care practices. Which was a week after the pre-test an additional (15) minutes were assigned at the end of the lecture for an open discussion with the women about this topic and feedback from the women was obtained to ensure that the women got the maximum benefits. The rest of the sessions was completed via the sapp group for women.

Booklet containing information about vaginal infection was distributed to women are given the books on the first day after the pre-test women who were selected based on inclusion criteria. Also, the researcher communicated with women via the Sapp group.

Evaluation phase:

Two evaluations were done for each woman; the first one was at the beginning of the study as a baseline data (pre-test). The second evaluation was conducted after one week from the education program and it was used the same tool used in the pre-test, the data was collected through a period of 6 months from (November 2022 to April 2023)

Statistical item:

Qualitative data were presented as (n) and percentage %.chi-square test (or fissures Exact test when applicable) were used for comparisons between the two groups. Numerical data were presented as, median, standard deviation (SD) and rang values .The significance level was set at $p<0.05$.Statistica analysis was performed with “IBM- SPSS” Version 26 for Windows.

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Results

Table (1): Frequency and percentage distribution of demographic characteristics for the studied women (n=60).

Items	Studied Women (n = 60)	
	N	%
Age group:		
• 18 -24	9	15
• 25 -30	23	38.3
• ≤ 30	28	46.7
Mean ± SD	28.98± 5.54	
Education:		
• Illeterate	1	1.7
• Read and write	30	50
• Basic Education	11	18.3
• Secondary Education	14	23.3
• High school	4	6.7
Residence:		
• Rural	19	31.7
• Urban	41	68.3
Occupation:	20	33
• Working		
• Housewife	40	66

Table (1) Indicates that, about half of the studied women were within age group (more than 30 years) More than half of them (50%) were read and write and about two thirds of the studied women (68.3%) were living in urban area. Regarding to economic level; more than two third of the studied women (73.3%) have middle economic level.

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Table (2): Frequency and percentage distribution of obstetric data for the studied women (n=60).

Items	Studied Women (n = 60)	
	N	%
Number of pregnancies		
• 1-3	46	76.7
• 4-5	13	21.7
• >5	1	1.6
Mean ±SD	2.97± 1.149	
Number of births (n=60)		
• 1-3	50	83.3
• 4-5	10	16.7
Number of abortions		
• No	39	65
• 1	18	30
• 2	3	5
Mean ±SD	0.400±0.588	
Recurrence of the infection during the past 3 months:		
• 1	2	3.3
• 2	22	36.7
• 3	22	36.7
• 4	14	23.3
Mean ±SD	2.80± 0.839	
Duration of current complication:		
• 3 days	10	16.7
• 5 Days	20	33.3
• 7 days	30	50
The current contraceptive method		
• No	3	5
• IUD	30	50
• Injection	5	8.3
• Pills	16	26.7
• Capsule	6	10
Previous vaginal infection		
• yeast infection	55	91
• Trichomonas infection	5	8.3

Table (2) Pregnancies and births (2.97±1.149), abortions (0.400±0.588), and infection recurrence in the last 3 months (2.80±0.839). In terms of modern contraceptive techniques, half (50%) of the investigated women used IUDs, whereas only a minority (10%) used contraceptive tablets. Yeast infection was the most common form of infection (91%).

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Table (3): Frequency and percentage distribution of women's knowledge regarding vaginal infection (n=60**).**

Items	Studied Women(n =60)				X2	P-Value
	Pre		Post one week			
	N	%	N	%		
Definition of vaginal infection:						
• Incorrect answer	57	95	6	10	88.74	0.000*
• Correct answer	3	5	54	90		
Causes of vaginal infection:						
• Incorrect answer	58	96.7	8	13.3	91.93	0.000*
• Correct answer	2	3.3	52	86.7		
Symptoms of vaginal infection:						
• Incorrect answer	56	92.3	6	10	83.46	0.000*
• Correct answer	4	6.7	54	90		
Types of infections:						
• Incorrect answer	58	96.7	7	11.7	95.82	0.000*
• Correct answer	2	3.3	53	88.3		
Factors contributing to infection:						
• Incorrect answer	59	98.3	9	15	90.20	0.000*
• Correct answer	1	1.7	51	85		
Complications of vaginal infection:						
• Incorrect answer	57	95	8	13.3	84.91	0.000*
• Correct answer	3	5	52	86.7		
Preventive measures for vaginal infection:						
• Incorrect answer	55	91.7	6	10	80.36	0.000*
• Correct answer	5	8.3	54	90		
Assessment of marital problems due to vaginal infections:						
• Incorrect answer	54	90	15	25	69.32	0.000*
• Correct answer	6	10	45	75		

***:Significant at P ≤ 0.05**

Table (3) showed that, The results showed a highly statistically significant difference in women's knowledge during the pre and post-test in all knowledge variables, with women's knowledge being more correct during the post-test (p-value= 0.000), with the majority (90%) of the studied women having correct answers in the post-test in /definition, symptoms, and preventive measures of vaginal infection.

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Table (4): Distribution of women's genital hygiene practices (n=60)

Variable	Studied Women (n = 60)				X2, P-value
	Pre		Post one week		
	No	%	No	%	
Cleaning the genital area after entering the bathroom every time					
• Not done	33	55	0	0	1.01,
• Done	27	45	60	100	0.500
Drying the perineal area after bathing (after rinsing)					
• Not done	52	86.7	6	10	1.154,
• Done	8	13.3	54	90	0.211
Wear loose cotton clothes					
• Not done	50	83.3	9	15	0.240,
• Done	10	16.7	51	85	0.04*
Constant change of underwear so that it is not an environment for infection					
• Not done	22	36.7	6	10	0.086,
• Done	38	63.3	54	90	0.05*
Use a disinfectant for cleaning					
• Not done	33	55	20	33.3	5.711,
• Done	27	45	40	66.7	0.01*
The antiseptic materials used may cause irritation to the genitals					
• Not done	52	86.7	44	73.3	3.33,
• Done	8	13.3	16	26.7	0.05*
Use a depilatory cream					
• Not done	50	83.3	52	86.7	0.261,
• Done	10	16.7	8	13.3	0.399
Washing underwear with warm water and soap					
• Not done	8	13.3	0	0	8.571,
• Done	52	86.7	60	100	0.03*
Exposing clothes to sunlight					
• Not done	26	43.3	6	10	17.04,
• Done	34	56.7	54	90	0.000*

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Variable	Studied Women (n = 60)				X2, P-value
	Pre		Post one week		
	No	%	No	%	
Ironing clothes before wearing them					
• Not done	48	80	12	20	43.20,
• Done	12	20	48	80	0.000*
Using tissues for drying					
• Not done	50	83.3	34	56.7	10.159,
• Done	10	16.7	26	43.3	0.001*
Using used old clothes for drying					
• Not done	51	85	47	78.3	0.891,
• Done	9	15	13	21.7	0.240
Using daily pads					
• Not done	38	63.3	14	23.3	19.548,
• Done	22	36.7	46	76.7	0.000*
Washing hands after every time entering the bathroom					
• Not done	33	55	0	0	10.159,
• Done	27	45	60	100	0.001*
Rinsing after sexual intercourse					
• Not done	52	86.7	0	0	0.278,
• Done	8	13.3	60	100	0.001*
Cleaning the vagina from the inside after sexual intercourse					
• Not done	50	83.3	0	0	0.288,
• Done	10	16.7	60	100	0.001*

***: Significant at P ≤ 0.05**

Table (4) showed that the results revealed a highly statistically significant difference in the women's personnel hygiene practices between the pre and post-test (p-value= 0.001). All of the women in the study (100%) answered correctly in the post-test for personnel hygiene care, including cleaning the vagina after a sexual encounter, rinsing after a sexual encounter, and washing the hands after using the restroom. Minority (13.3%) of them use deplintary cream, while washing underwear in warm water with detergent and cleansing the genital area after using the restroom every time.

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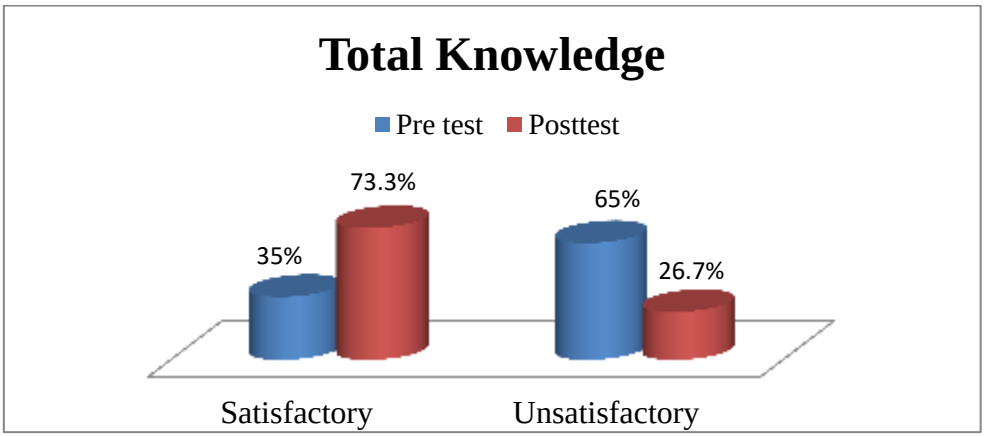

Figure (1): Bar graph representing total women knowledge pre and post instruction

Figure (1) shows that, more than one third (35%) of the studied women had satisfactory knowledge pretest, while about two third 65% had un satisfactory knowledge and more than two third (73.3%) of them had satisfactory knowledge post the guidelines.

Table (5): Distribution of women's hygiene practices during menstruation (n=60).

Variable	Pre		Post one week		X2, P-value
	No	%	No	%	
Taking a shower during menstruation					
• Not done	1	1.7	0	0	1.008,
• Done	59	98.3	60	100	0.500
Cleaning the vulvar area while showering					
• Not done	1	1.7	0	0	1.008,
• Done	59	98.3	60	100	0.500
Shower standing up					
• Not done	4	6.7	1	1.7	1.878,
• Done	56	93.3	59	98.3	0.364
Taking a shower while sitting					
• Not done	52	86.7	59	98.3	5.886,
• Done	8	13.3	1	1.7	0.01*
Cleaning and disinfecting the place of urination after entering the bathroom					
• Not done	20	25	0	0	2.00,
• Done	40	75	60	100	0.04*
Using a sanitary napkin					
• Not done	20	25	7	11.7	0.370,
• Done	40	75	53	88.3	0.01*
Sanitary napkins are made of cotton					
• Not done	23	38.3	50	83.3	25.49,
• Done	37	61.7	10	16.7	0.000*
Leaving sanitary pads for a long time					
• Not done	56	93.3	57	95	0.152,
• Done	4	6.7	3	5	0.05*

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Using common hygiene means with the sisters					
• **Not done**	**53**	**88.3**	**59**	**98.3**	**4.821,**
• **Done**	**7**	**11.7**	**1**	**1.7**	**0.03***
Exposing hygiene products to the sun					
• **Not done**	**35**	**58.3**	**7**	**11.7**	**28.71,**
• **Done**	**25**	**41.7**	**53**	**88.3**	**0.000***

***: Significant at P ≤ 0.05**

Table (5) showed that there was a highly statistically significant difference in the women's hygiene practices during their periods between the pre- and post-instruction periods (p-value = 0.000). Of the women in the study, all (100%) took a shower during their periods, cleaned the vulvar area after showering, and cleaned and disinfected the bathroom after using the restroom, but only 1.7% of them performed so while seated.

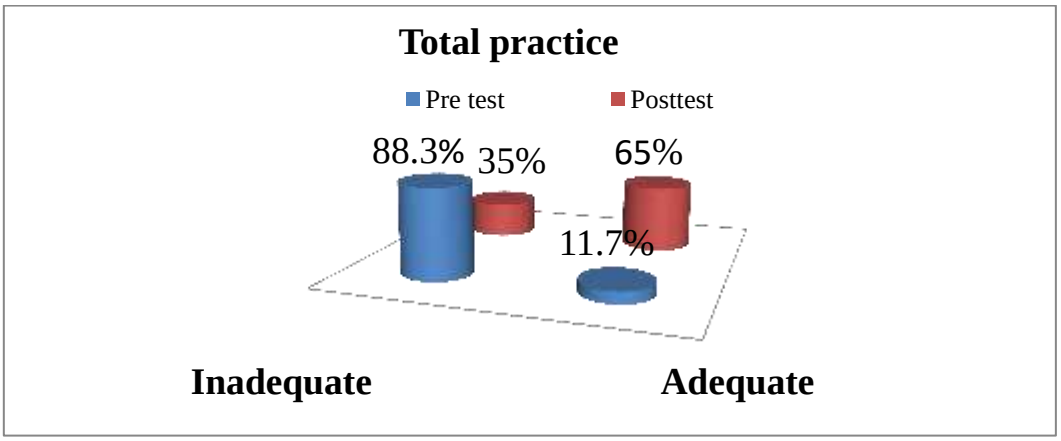

Figure (2): Bar graph representing total women knowledge pre and post instruction

Figure (2) shows that, the majority (88.3%) of the studied women had incompetent practice in pretest, while minority (11.7%) had competent practice and 35% of them had incompetent practice post the instruction.

Table (6): Distribution of women's sexual function pre and post the nursing instruction (n=60).

Items	Pre nursing instruction	Post nursing instruction	Paired t-test	P-value
Sexual desire	**4.983±1.127**	**4.516±0.567**	**2.864**	**0.05***
Arousal	**8.167±1.291**	**12.50±2.10**	**13.601**	**0.001***
Lubrication	**7.533±1.512**	**4.383±1.53**	**11.341**	**0.003***
Orgasm	**5.767±1.110**	**5.467±0.567**	**1.864**	**0.001***
Satisfaction with sexual life	**8.333±1.361**	**4.383±1.530**	**14.938**	**0.000***
Pain during or after intercourse	**5.850±1.947**	**7.300±1.013**	**5.117**	**0.000***

***: Significant at P ≤ 0.05**

Table (6) revealed that, there was a highly statistically significant difference between studied women regarding women's sexual function pre and post instructions with (p-value = 0.000).

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Table (7): Correlation coefficient between women's knowledge, Practice and Women's sexual function:-

Variable	Women's Knowledge	
	Correlation Coefficient	*P*-value
Women's Practice	0.152	0.002*
Women's Sexual function	0.062	0.000*

*: Significant at P ≤ 0.05

Table (7) shows that, there was a positive correlation between women's knowledge, women's practice, and sexual function with statistically significant difference (*P*- value= 0.002, and 0.000).

Table (8): Correlation coefficient between Practices and Women's sexual function.

Variable	Women's Practice	
	Correlation Coefficient	*P*-value
Women's Sexual function	0.193	0.04*

*: Significant at P ≤ 0.05

Table (8) shows that, there was a positive correlation between women's practice, and sexual function with statistically significant difference (P- value= 0.04).

Table (9): Follow-up of the recurrence of vaginal infection among women with vaginal infection

Items	After one month(n = 14)		After two months(n = 14)		After three months(n = 12)		Anova test, P-value
	N	%	N	%	N	%	
A woman is doing a follow-up (54):-							
Symptoms and tags in the beginning:- Inflammation Itching Pain White discharge	10 8 5 6	16.6 13.3 8.3 10	10 7 5 4	16.6 11.7 8.3 6.6	3 3 2 2	5 5 3.3 3.3	0.097, 0.000*
Diagnosis before treatment:- Vaginitis	14	23.3	15	25	6	10	
Treatment:- Vaginal suppositories Wash Oral medications	14 4 4	23.3 6.6 6.6	15 9 1	25 15 1.7	6 3 0	10 5 0	

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Infection recurrence:-							
Yes	**14**	**23.4**	**15**	**25**	**6**	**10**	
No	**46**	**76.6**	**45**	**75**	**54**	**50**	
A Woman not doing the follow- up(n=6):-	**2**	**1.6**	**2**	**3.3**	**0**	**0**	**0.02, 0.000***
Number infection time							
Reasons for not following up:-	**2**	**1.6**	**2**	**3.3**	**0**	**0**	
Far distance	**1**	**3.3**	**1**	**1.7**	**0**	**0**	
Workload							
Total							
Unsatisfactory	**12**	**20**	**6**	**10**	**3**	**5**	**0.067,**
Satisfactory	**2**	**3.3**	**8**	**13.3**	**9**	**15**	**0.001***

Significant at P ≤ 0.05

Table (9) shows that, Regarding the recurrence of vaginal infections over a three-month follow-up period, there was a highly statistically significant difference between the women in the study (p-value = 0.000). Recurrences of infections were shown to have declined after three months, with 50% of cases occurring after the first month (76, 6%). The lack of follow-up was due to women working and distance.

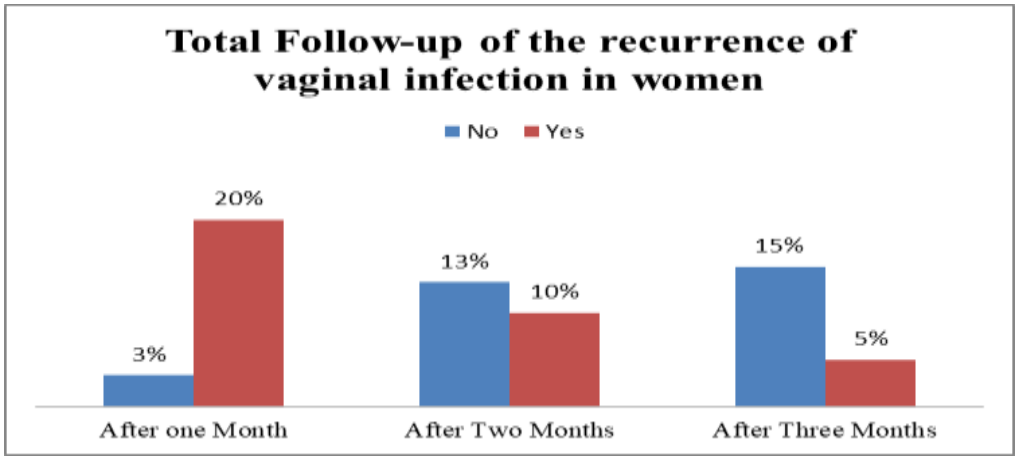

Figure (3): Bar graph representing Total Follow-up of the recurrence of vaginal infection in women:-

Figure (3) shows that, 20% of the studied women had vaginal infection after one month, while after two months become 10% compared to 5% after three months.

Discussion

Genital tract infections are a common issue. Vaginitis is an infection and inflammation of the vagina, with symptoms such as leucorrhea, discomfort, and itching or irritation. Millions of women suffer from vaginal candidiasis (also known as vaginal yeast infection), a fungal infection caused by a type of Candida. That is a common vaginal infection in women that can have an influence on their sexual function, romantic relationships, and overall quality of life. Candida albicans is responsible for 85-95% of all vaginal yeast infections. This disease most commonly affects fertile women.

(Abdallah.,2020)

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The current study aimed to evaluate the effect of instructional guidelines on sexual function among women with vaginal yeast infection the aim will be achievement.

Approximately 70-75% of women of reproductive years are expected to experience at least one episode of vaginal yeast infection in a lifetime. Women under the age of 40 had a much higher chance of acquiring a vaginal yeast infection than older women. Furthermore, having a first sexual intercourse before the age of 20 increased the risk of acquiring a vaginal yeast infection fourfold. Twenty-five percent of pregnant women have candida organisms in their vagina. ***(Djoulde.,2024)***

Regarding demographic characteristics, the current study results found that, about half of the studied women were within age group (more than 30 years) Mean age ± 28.98 ± 5.54). More than half of them were read and write and about two thirds of the studied women were living in urban area. Regarding to economic level, more than two third of the studied women have middle economic level.

The results of the current study agree with ***(Widiawati ., 2023)*** who study " The influence of health education on female knowledge about vulva hygiene" the age of reproductive-aged women in the present study ranged from 15 to 50 years, with a median age of 28.0 years. The majority of women were aged between 26 and 35 years (about half), of secondary level of education (more than one third), married (the most), urban residents (the majority) show an overall prevalence of more than one third for vaginal yeast infections among reproductive-aged from the researcher's point of view, agreement may be due to the women same age group, same urban area.

The current study disagree with ***(Zeng.,2023)*** who study " risk factors of recurrent bacterial vaginitis among women of reproductive age in the United States " shows that the mean age of the study and control groups were 29-63 years respectively. More than half of both groups had secondary education. Regarding residence, the majority of the study and the majority of the control groups live in rural areas. Less than three-quarters of both groups were housewives.

Regarding correlion between women's knowledge, women's practice, and women sexual function. Shows that, was a positive correlation between women's knowledge, women's practice, and sexual function with statistically significant difference (P- value= 0.002, and 0.000). The current study agree with ***(Atef.,2023)*** who study "a descriptive comparative study of vaginal infection control practices between rural and urban women." that was shown that there was a very statistically significant relationship between the overall knowledge of women.

The present study in disagreement with ***(Peebles.,2021)*** who study "enrollment, injectable contraceptive methods were used by over half of women in South Africa " more than half, followed by hormonal implants minority, Copper Intra Uterine Device (Cu-IUD) minority, Oral Contraceptive Method (OCP) minority, and A large number of cases involve tubal ligation. Enrollment in contraception varied by culture, with a minority using Cu-IUDs and a minority using hormonal implants.

Regarding women's knowledge about vaginal yeast infection. There was improvement in the definition of vaginal infection, symptoms of vaginal infection, and preventive measures for vaginal infection in the post test than pretest. The current study results found that was a statistically significant difference between women's knowledge during pre and post-test in all knowledge variables in which women's knowledge were more correct during the posttest with (p-value= 0.000) . The current study concurs with. ***(Kamazima.,2023)*** the study " vaginal douching a neglected health risk behavior among women and sexually active adolescent girls in Tanzania " improving the proportion of knowledge among women in the post-test after providing information on how to prevent yeast infection. And the majority of the participants had strong understanding of all preceding items in the posttest, with a statistically significant difference between the pre and posttests.

The study results disagreement with ***(Purbasari.,2023)*** " the relationship between knowledge and the occurrence of vaginal discharge in Indonesia" The study found that more than one-third of the examined sample had strong knowledge about the architecture of the female reproductive system and vaginal yeast infection at the pre-intervention and post-intervention stages, accordingly Disagreement may be due to throughout Egypt, the weather is hot, which allows organisms to grow, encourages increase discharges and produces a negative effect on sexual function. But in Indonesia, the cool the atmosphere.

From the researcher's point of view, was found that women's lack of awareness of vaginal yeast infections is caused by a lack of awareness and understanding about that kind of illness, as well as a poor level of education.

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As regards to women's genital hygiene practices. It was observed that in that study a statistically significant difference between women's personnel hygiene practice during pre and post-test with (p-value= 0.001).That majority of studied women have unsatisfactory practices at pre-intervention, while about two third them have satisfactory practices at post-intervention. Shows that, all of the studied women had correct answers in posttest scores of personnel hygienic care in rinsing after sexual intercourse, cleaning the vagina from the inside after sexual intercourse, washing hands after every time entering the bathroom, washing underwear with warm water and soap, &cleaning the genital area after entering the bathroom every time, while minority of them use depilatory cream. Showed the biggest improvement in the cleaning the genital area after entering the bathroom every time, washing underwear with warm water and soap, washing hands after every time entering the bathroom, Rinsing after sexual intercourse, cleaning the vagina from the inside after sexual intercourse. The present study similar to ***(Chayachinda.,2024)*** who study" Acute vaginal candidiasis in Thai "

Regarding the distribution of the studied women related to that reported practices about urogenital infection at pre and post and follow up stages, this study revealed that more than three-quarters of studied women have unsatisfactory practices at pre-intervention, while most of them have satisfactory practices at post-intervention. Most of them have manifested satisfactory practices during the follow-up stage with a highly significant improvement in relation to wearing cotton underwear, wearing loose underwear, continuous changing of underwear, washing underwear with hot water, exposing clothes to sun rays. Agreement may be due to the same culture among women and the same society. The results disagrees with the study conducted by ***(Felix., 2020)*** who study " evaluation of vulvo vaginitis and hygiene habits of women attended in primary health care units of the family the country of Brazil " In regard to genital hygiene, women with vaginal yeast infections washed the genitals twice a day, or half of the time.

As regards to a significant was high statistically significant difference between studied women regarding personal hygiene practices pre and post instructions with (p-value = 0.000). The current study found that consistent with *(Daher., 2022),* Who studied " intimate hygiene practices and reproductive tract infections" Frequent self-washing during menstruation was linked to a lower incidence of reproductive tract infections, specifically candidiasis and bacterial vaginitis. Menstrual dysregulation and extended an accumulation of blood and discharge in the vagina can disrupt the vaginal ecology, thereby self-washing and flushing can help avoid reproductive tract infections.

The present study dissimilar to with ***(Becker.,2023)*** who study" the vulvo vaginal candidiasis, genital hygiene behaviors and self-efficacy in patients with diabetes in Turkey" important preventative methods that underwear should be changed every day under normal conditions and, especially during the period that the vaginal discharge is concentrated, that should be changed more. The survey found that approximately two third frequently change their underwear daily that fewer than one quarter of women iron their underwear.

As regards to women's hygiene practices during menstruation, found that, the environment was a very statistically significant difference between studied women regarding hygiene practices during menstruation pre and post instructions with (p-value = 0.000). which, all of the studied women in taking a shower during menstruation, cleaning the vulvar area while showering and cleaning and disinfecting the place of urination after entering the bathroom, using a sanitary napkin which majority and sanitary napkins are made of cotton minority while only minority of women taking a shower while sitting. Showed the biggest improvement which, all in the taking a shower during menstruation, cleaning the vulvar area while showering, cleaning and disinfecting the place of urination after entering the bathroom.

The study result agrees with ***(Liu., 2023).*** Who study " use of probiotic lactobacilli in the treatment of vaginal infections " on health status amongst women of reproductive age residing in an urban slum of New Delhi, India"The majority of personnel had good menstrual hygiene habits. The study found a strong beneficial relationship between adequate menstrual hygiene habits. Using sanitary pads and cleaning the vaginal location are crucial habits for proper menstrual hygiene.

The present study disagree with ***(Sivakami.,2024)*** who study " menstrual hygiene practices among Indian women India" demonstrates that the majority of the girls chose cloth pieces over sanitary pads as menstrual absorbents. Only minority girls used sanitary pads for menstruation. The bulk of the girls utilized old clothes during their

Regarding personal hygiene practices during menstruation, pre and post instructions with (p-value = 0.000). the current study found that was a highly statistically significant difference between studied women the results of the current study concur with ***(Singh.,2022)*** Who studied, " menstrual hygiene practices among adolescent women in rural

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India " More than two-thirds of girls used disposable sanitary pads during menstruation, and more than half of the women washed the female genital With clean water during periods, nearly two-thirds of adolescent girls cleansed their genital organ at least three times a day, and more than half of adolescent girls dried washed reusable garments in direct sunshine.

The result disagree with the ***(*Sivakami., *2024)*** who study " menstrual hygiene practices among Indian women. In atlas of gender and health inequalities in India " the current study found that more than half of the study participants used sanitary pads during menstruation. When relating to changing pads during menstruation, more than one-third of the survey participants reported doing so twice a day. Regarding genital drying, two-thirds of the survey group reported having dried the vaginal area every time they used the restroom during menstruation. Disagreement may occur due to differences in climate and beliefs in India.

The current study reported that, the majority of the studied women had incompetent practice in pretest, while minority had competent practice and more than one third of women had competent practice post the instruction. The present current study is in agreement with ***(Mtende,2024)*** who study " factors associated with vulvovaginal candidiasis and antifungal susceptibility patterns among non-pregnant women " practices about leucorrhoea pre-and post-teaching guidelines, and suggested that the majority of the examined women had an inadequate level of practice prior to teaching guidelines, but after teaching guidelines, the majority of them had an appropriate level of practice. The incidences resulted in a highly statistically significant difference and improvement in women's yeast infection practices before and after instructional instructions were implemented.

From the researcher's point of view, observe lack of good practice about caring for the reproductive organs and protecting them from vaginal yeast infection, personal hygiene during the menstrual cycle. Women now have good practice about how to care for the reproductive organs, preventing and keeping women against vaginal yeast infections.

And I have women now

Regarding women’s sexual function. The current study revealed that, was a highly statistically significant difference between studied women regarding women’s sexual function pre and post instructions with (p-value = 0.000). This study revealed that less than one-quarters of studied women have unsatisfactory sexual function at pre-intervention, while majority of them have satisfactory sexual function at post-intervention. Showed the biggest improvement in desire, lubrication, orgasm, satisfaction with sexual life, and pain during or after intercourse and marital problems due to infections, difficulties intercourse during the relationship, refusal of sexual intercourse due to severe pain .While there was no slight improvement in arousal, perhaps because the husband did not engage in foreplay before. Intercourse the results of the current study concur with ***(Şimşir.,2019)*** who study " Effects of vaginitis and its treatment on sexual functions in Ankara "

The present study disagrees with ***(Long., 2022).*** Who study " changes in sexual function and vaginal topography using transperineal ultrasound after vaginal laser treatment for women with stress urinary incontinence in Kaohsiung University" Significant improvements were seen in the majority of the categories and overall score in FSF (female sexual function) following teaching, with the exception of sexual desire. Low sexual desire is caused by a variety of variables, including psychological and biological factors. The most noticeable changes in FSFI were in the lubrication, satisfaction, and pain domains, which accounted for half. The findings may be associated to improved vaginal health in histological terms, such as increased mucosal thickness and fibroblast activity; however, disagreement may be due to two distinct samples. Perhaps the woman's exhaustion and worry prevented a big improvement in desire.

From the researcher's point of view, the findings revealed that the sexual function of women was greatly affected by vaginal infections because it causes them pain and an increase or decrease in vaginal secretions, which negatively affects the marital relationship, and the presence of some marital problems. That happens due to lack of good hygiene after intercourse and lack of proper nutrition. The sexual function of women improved after applying the educational guidelines.

In relation to recurrence of vaginal infection in women with vaginal infection. The current study found that, was a highly statistically significant difference between studied women regarding recurrence of vaginal infection for three months follow up with (p-value = 0.000). Improvement Infection recurrence in the first month which more than two third and second month the majority and third month about half the reason for not following up is the distance and

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work. The results of the current study agrees with ***(Phillips., 2022)*** who study " topical treatment of recurrent vaginal candidiasis women suffering from recurring vaginal candida at US " the results showed that were statistically considerably fewer infections during the preventative period than during the 26-week follow-up period.

The result inconsistent with the ***(Murray.,2023)*** who study " comparison of virtual management of vulvovaginal candidiasis to traditional in-person care in Minnesota" The results indicated that around two-thirds of both groups had experienced two vaginitis recurrences in the previous six months. The average length of the present complaint in the study and control groups was 6.47±1.91 and 7.82±3.24 days, respectively. Disagreement may arise due to differences in frigid climates.

Regarding correlation between practice and women's sexual function. The current study shows that, was a positive correlation between women's practice, and sexual function with statistically significant difference (P- value= 0.04). The current study similar to ***(Alahverdi.,2020)*** who study. " treatment outcomes of vaginal infections on sexual function in Iran University " Dyspareunia improved the most, whereas orgasm improved the most following the yeast infection instruction.

Recommendations

Based on the findings of the study results, the following recommendations were advocated:

- Impalement educational program regarding predisposing factor causing vaginal yeast infection among women.
- Regular instructional sessions to increase awareness of women about health practice to prevent recurrence of vaginal yeast infection.

Further recommendations:

- Development training program for the maternity nurses regarding decrees vaginal infection.

Conclusion

On the light on the finding of the current study, it can be concluded that: The finding of the current study support the research hypothesis Instructional guidelines was have positive effect on sexual function among women with vaginal yeast infection. Revealed that, there was a highly statistically significant difference between women's personnel hygiene practice during pre and post-test.

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