

## Assessment of Menopausal Women Performance regarding Vulvar Self Examination

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### Abstract

**Background:** Vulvar self-examination can help the women to discover the presence of any abnormality and important to recognize any physical change. **Aim:** To assess of menopausal women performance regarding vulvar self-examination. **Design:** A descriptive research design was used to conduct the study. **Setting:** The study was conducted at obstetrics and gynecological clinic at Arab Contractors Medical Center. **Sample:** A purposive sample of 110 menopausal women who attended at Arab Contractors Medical Center. **Tools of Data Collection:** **Tool I;** Knowledge assessment questionnaire, to assess menopausal women knowledge regarding vulvar self-examination. **Tool II;** Practical self-assessment checklist, to assess Menopausal women's practice regarding vulvar self-examination. **Results:** More than three quarter of menopausal women had poor knowledge, and less than one quarter had average and good knowledge about vulvar self-examination. In addition, more than half of the menopausal women had examined their vulva incorrectly and less than one quarter of menopausal women had examined their vulva correctly. There was a strong positive correlation between women's knowledge and their practice regarding vulvar self-examination. **Conclusion:** Vulvar self-examination can help in early detection of any abnormalities and no delay to become severely. **Recommendations:** Design educational program to raise menopausal women awareness regarding to the symptoms required to perform vulvar self-examination

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**Key words:** Menopausal, Women Performance, Vulvar Self-Examination

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### Introduction

Vulvar self-examination is a good way to screen for vulvar problems once a month. The vulvar self-examination will help to be aware of any changes that could signal problem. This exam is even more vital if women have ever had a vulvar problem. Some changes in the vulva may be an early sign of cancer. When women examine their vulva, they should look for redness, bumps, swelling, dark or light spots, or any other changes and tell doctors if women see any changes or have symptoms as itching, discomfort, or burning (Campos et al., 2021).

Menopause is unique experience for each woman, it is a stage of development with complex changes occurring which also may be compounded with medical problems due to decline in the ovarian production of estrogen and the feedback effect of gonadotrophins leads to an increased follicle stimulation of menses for a period of 12 consecutive months confirms menopause (Palacios et al., 2020).

Like many parts of body, the vulva is affected by cessation of estrogen during, and after menopause; the vulvar skin loses elasticity, the underlying fat and connective tissues undergo

degeneration, with loss of collagen and thinning of the epithelial layer. Consequently, Menopausal women predisposed to a variety of vulva disorders and symptoms (**Santoro et al., 2021**).

The new approach of women's health care today is directed toward health promotion, which is defined as activities that maintain or enhance individual's wellbeing and moving toward optimal health. The major objective for women's health is to empower each woman to have control over body and values the woman's participation through self-care (**Gerber et al., 2021**).

Self-examination is one of the self-care activities for health promotion which increase the women's awareness about the importance of screening procedures and the benefits of early detection of disease for proper treatment less complication and better health status (**Elbnedari&Shalaby, 2021**).

Health providers use the disease prevention strategy of risk appraisal and risk reduction to help individuals and groups maximize their self-care activities. The goal of risk appraisal and reduction is to prevent disease or detect disease in its earliest stage, the knowledge base for risk appraisal and reduction is the scientific evidence, which relates risk factor and disease and the effectiveness of interventions in reducing both mortality and morbidity (**Tuli, 2021**).

Nurses have a vital role to play to encouraging women to be aware about gynecological condition by know what is normal for women normal anatomy, normal vaginal secretion, look and feel, know changes to look out for report any changes without delay and attend for gynecological screening (**Al-Ansari et al., 2021**).

Nurses play a vital role in the assessment of menopausal women's performance regarding

vulvar self-examination by providing education, guidance, and support. Nurses can instruct women on proper self-examination techniques, address questions and concerns, emphasize the importance of regular checks, and create a comfortable and non-judgmental environment. Nurses also serve as a bridge between women and healthcare providers, ensuring that any concerning findings are communicated and addressed promptly, ultimately contributing to early detection and improved women's health outcomes during the menopausal transition (**Norton & Tremayne, 2020**).

### Significance of the Study

Women reproductive system changes after menopause because of decreased level of estrogen, vulva is affected as any part of body these vulvar changes can lead to variety of disorders, these disorders undiagnosed disabling, women present late to the doctor because women have not seen the early signs of the condition because women don't look at their vulva because stigma about using the word vulva, too embarrassed and afraid to seek help (**Mettawi, 2021**).

Forty seven percent of women silently endure genital tract infection without complaining in Egyptian community in addition, 35. 8% of women were unaware that women had genital prolapsed. Vulvar cancer represents 3-6 % of all genital malignancies and 1 % of vulvar cancer in woman seen mostly among menopausal women and survival rate is 70- 75% for all stage over all 5 years (**Panez et al., 2021**).

The incidence of vulvar cancer 2.5% in Egypt, the incidence of vulvar cancer is 2.5%, so, vulvar self-examination helps to decrease the surgical approach as simple vulvectomy and radical vulvectomy (**Nazari et al., 2022**). In Egypt, the national cancer institution goal is to decrease cancer mortality by prevention and early

detection which refer to self-care activities as vulvar self-examination to decrease risk of mortality (Eiz-Elregal, 2020).

Vulvar self-examination during menopause is critical for maintaining women's health, recognizing any physical changes, potential issues can be identified early, leading to better health outcomes and reduced morbidity. So, So, this study aimed to assess of menopausal women performance regarding vulvar self-examination. (Al-Ansari et al., 2021).

### Aim of the Study

This study aimed to assess of menopausal women performance regarding vulvar self-examination.

### Research Questions

- 1) Do menopausal women have knowledge regarding vulvar self-examination?
- 2) Do the menopausal women perform practice the vulvar self-examination?

### Subject and Methods

#### Study Design:

A descriptive research designs. It is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way (Woods et al., 2021).

#### Study Setting:

The study was conducted in obstetrical and gynecological clinic at Arab Contractors Medical Center (ACMC). The center provides services to the areas around it as El-Dewika and EL Manisha.

#### Sample type:

Convenience sample was used in the current study.

#### Sample size:

A total 110 menopausal women who attended obstetrical and gynecological clinic at Arab Contractors Medical Center (ACMC).

The data collection was carried over eight months from the first of January 2022 to the end of August 2022 were included in the study.

#### Inclusion criteria:

- Educated and non-educated menopausal women at Arab Contractors Medical Center.

#### Exclusion criteria:

- Women up to 60 years.

#### Tools of data collection:

Data were collected using two tools. It was used to collect the necessary data which cover the study objectives through the following:

#### First Tool: Interviewing Questionnaire:

The Questionnaire was adapted from (Ahmed, 2021) and modified by researcher after reviewing the related literature. The tools translated into Arabic language to be suited for the menopausal women and divided into two parts:

**Part (I): Demographic data of the studied women:** this part was developed to collect data such as age, marital status, educational level, occupation, residence and family income.

Medical history such as: history of chronic diseases and type of chronic diseases (2 questions)

Surgical history such as: history of surgical operations and type of surgery (2 questions)

Obstetrical history such as: age of menarche, number of abortions and number of living children (5 questions)

gynecological history such as: gynecological procedure, vaginitis, cervicitis, history of using any family planning methods,

## Part II: Knowledge assessment questionnaire:

The questionnaire was adapted from (Alvisi et al., 2020) and modified by researcher after reviewing the related literature.

Section (A): It consists of (10) items, (1 item with 7 marks) about external normal genitalia structures (clitoris, labia minora, urethra, perineum, labia majora and anus), (3 item with 10 marks) about normal vaginal secretions (color and odor), (2 item with 5 marks) about external genital vulvar self-examination which about external genital self-examination and its benefits. In addition, (4 items with 8 marks) correct time, who should examine their vulva, signs and symptoms of an external genital tract infection.

Section (B): Vulvar abnormal symptoms; vulvar disorders: (itching, burning sensation, abnormal vaginal secretion, papules, vulvar pain) (1 item with 5 marks), discovered through: (symptoms, accidentally) (1 item with 2 marks), and action taken: (used domestic remedies, medical care) (1 item with 2 marks).

### Scoring system:

The total knowledge questions were 13 items with total 39 mark. Each correct response was scored (1) while an incorrect one was scored (zero) for each area of knowledge, the scores of the items were summed up and the total divided by the number of items, giving a mean score for the area. These scores were converted into percentage scores, the women knowledge was considered as following:

- Poor knowledge: < 50 % (0 – 19 mark)

- Average knowledge: 50- < 70 % (20 – 29 mark)
- Good knowledge: 70 % -100 % (30 – 39 mark).

Second Tool: Practical self-assessment checklist regarding vulvar self-examination as reported by the studied women:

This tool was adapted from (Hamid et al., 2020) and modified by researcher after reviewing the related literature. Each women was asked to if the women has examined her vulva before or not, why women examined her vulva, when, how the women examined it.

### Scoring system:

The total practice items were (11) items each step done was given (1) score and not done scored (zero). Responses evaluated and graded as following:

- Incorrect practice: <50 % (0 - 5 question)
- Accepted practice: 50- < 70 % (6 - 8 question)
- Correct practice: 70-100 % (9 - 11 question).

## Content Validity and Reliability:

Validity of the study tools was assessed by jury group consisted of 3 experts in maternal and newborn nursing department of faculty of nursing - Helwan University for comprehensiveness, accuracy and clarity in language.

Reliability was tested by using a Cronbach's Alpha test (0.89) for Knowledge assessment questionnaire and (0.84) Practical self-assessment checklist regarding vulvar self-examination.

**Pilot study:**

Pilot study was carried out on 10% of the total study sample (11 women) to evaluate the applicability, efficiency, clarity of tools, assessment of feasibility of field work, beside to detect any possible obstacles that might face the researcher and interfere with data collection. The required modifications were done based on the pilot study findings such as (omission of some questions from tool) in order to strengthen their contents or for more simplicity and clarity. The pilot sample was excluded from the main study sample.

**Field work:**

Data collection of the study was started at the beginning of January 2022, and completed by the end of June 2022 (6 months). The study carried out 3 days/week using the previously mentioned study tools. The researcher introduced herself to women and provided them a comprehensive background about the study, the aim of the study and expected outcomes were explained by the researcher to all women to all women who were voluntary involved/participated in the study. The researcher distributed the questionnaire to women in order to collect the required data. The researcher was be available for any more clarification.

**Ethical consideration:**

The research approval was obtained from the Scientific Research Ethical Committee of the Faculty of Nursing, Helwan University before starting the study. The researcher clarified the aim of the study to each woman included in the study before starting, an approval was obtained

from the women before inclusion in the study, the researcher assured maintaining anonymity and confidentiality of women data included in the study that it would be used for the research purpose only. Tools of data collection will not touch moral, religious, ethical and culture aspect of the studied women. The women informed that they are allowed to choose to participate or not in the study and they have the right to withdraw from the study at any time without giving any reasons.

**Administrative Design:**

An official letter requesting permission to conduct the study was directed from the dean of the faculty of nursing Helwan University to the hospital director at Arab Contractors Medical Center [ACMC] and then to the director of outpatient clinics and the nursing directors to obtain their approval to carry out this study. This letter included the aim the study and photocopy from data collection tools in order to get their permission and help for collection of data.

**Statistical Design:**

Data collected from the studied sample was revised, coded and entered using PC. Computerized data entry and statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 20. Data were presented using descriptive statistics in the form of frequencies and percentages and measured standard deviations for quantitative variables. Chi-square test ( $X^2$ ) was used for comparison and r. test for correlation between qualitative variables. Statistical significant was considered at  $p.value \leq 0.05$ .



## Results

**Table (1): Distribution of menopausal women regarding their demographic data (n=110)**

Variables	no	%
Age:		
40 : 45	8	7.3%
46 : 50	28	25.5%
51 : 55	71	64.5%
> 55	3	2.7%
Mean ± SD	50.6 ± 2.4	
Marital status:		
Not Married	4	3.6%
Married	86	78.2%
Divorced	2	1.8%
Widow	18	16.4%
Educational level:		
Cannot read and write	51	46.4%
Primary education	10	9.1%
Secondary education	14	12.7%
Higher education	5	4.5%
Occupation:		
Work	42	38.2%
House wife	68	61.8%
Residence:		
Rural	29	26.4%
Urban	81	73.6%
Family income:		
Enough	18	16.4%
Not enough	83	75.5%
To some extent	9	8.2%

Table (1) reveals that, nearly two thirds (64.5%) of menopausal women aged between 51: 55 with Mean  $\pm$  SD = 50.6  $\pm$  2.4. More than three-quarter (78.2%) of menopausal women were married. In addition, less than half (46.4%) of menopausal women were cannot read and write and about (12.7%) of them had secondary education. Regarding their occupation, less than two-thirds (61.8%) of menopausal women were house wives. Less than three quarters (73.6%) of menopausal women were from urban areas. Furthermore, three quarters (75.5%) of menopausal women demonstrated that their income did not meet life expenses.

**Table (2): Distribution of menopausal women regarding medical and surgical history (n= 110)**

Items	no	%
<b>History of chronic diseases:</b>		
Yes	99	90%
No	11	10%
<b>Type of chronic diseases (n. = 99)</b>		
Diabetes mellitus	22	22.2%
Blood pressure	25	25.3%
Heart diseases	9	9.1%
Kidney diseases	7	7.1%
More than 2 chronic diseases	36	36.4%
<b>History of surgical operations:</b>		
Yes	78	70.9%
No	32	29.1
<b>Type of surgery (n. = 78)</b>		
Hysterectomy	18	23.1%
Oophorectomy	39	50.0%
Vulvar operation (radical vulvectomy or vulvectomy)	8	10.3%
Other operation (appendectomy)	13	16.7%

Table (2) showed the distribution of menopausal women regarding medical and surgical history. Regarding medical history, one quarter (25.3%) of menopausal women had blood pressure and less than one quarter (22.2%) had diabetes mellitus. Regarding to surgical history, half (50.0%) of menopausal women had oophorectomy and less than one quarter (23.1) had hysterectomy while, only (10.3%) had vulvar operation (radical vulvectomy or vulvectomy).

**Table (3): Distribution of menopausal women regarding obstetrical history (n= 110)**

Obstetrics history	No.	%
Age of menarche		
< 12	13	11.8%
12 – 14	81	73.6%
> 14	16	14.5%
Mean ± SD	12.42 ± 0.83	
Number of abortions		
No abortion	102	92.7%
Once	6	5.5%
More than once	2	1.8%
No. of living children		
One	32	29.1%
Two or more	78	70.9%

Regarding obstetric history of the menopausal women. Table (3) showed the distribution of menopausal women regarding obstetrical history, more than two thirds (73.6%) of menopausal women their age of menarche started between  $11 \leq 12$  years. In addition, the majority (92.7%) of menopausal women had no abortion while, about (5.5%) of them had one abortion.

**Table (4):** Distribution of menopausal women regarding their knowledge about external genitalia structures and vaginal secretions (n= 110)

Items	Correct Answer		Incorrect Answer	
	No	%	no	%
<b>The external genitalia of the female reproductive system?</b>				
Clitoris	103	93.6%	7	6.4%
Libiaminora	33	30.0%	77	70.0%
Libiamajora	20	18.2%	90	81.8%
Urinary meatus/urethral opening	91	82.7%	19	17.3%
Perineum	7	6.4%	103	93.6%
Vagina	87	79.1%	23	20.9%
<b>Menopausal women suffer from vaginal discharge:</b>				
Correct	21	19.1%	89	80.9%
Incorrect	89	80.9%	21	19.1%
<b>The characteristics of vaginal secretions:</b>				
White color	84	76.4%	26	23.6%
Mucous and watery textures	22	20.0%	88	80.0%
Transparent	88	80.0%	22	20.0%
It has no smell	49	44.5%	61	55.5%
<b>The characteristics of abnormal vaginal secretions:</b>				
Liquid smells foul	83	75.5%	27	24.5%
Accompanied by pain, vaginal itching	103	93.6%	7	6.4%
Feeling of burning while urinating	99	90.0%	11	10.0%
It has an opaque color that is whitish relative to cheese or yellow	7	6.4%	103	93.6%
<b>The external genitalia self-examination is:</b>				
A vaginal self-examination is a way for a woman to look at vulva and vagina	9	8.2%	101	91.8%
<b>Do you know what are the benefits of external genitalia self-examination:</b>				
Early detection of infection	29	26.4%	81	73.6%
Know the changes that occur	35	31.8%	75	68.2%
Improper treatment of any problem that occurs to the external genitalia	27	24.5%	83	75.5%
Avoid getting many diseases or reduce their severity	23	20.9%	87	79.1%
All of the above	75	68.2%	35	31.8%



Regarding knowledge level of the menopausal women about external genitalia structures, vaginal secretions and vulvar self-examination. Table (4) revealed that, the majority of the menopausal women answered that shape of the external genitalia consisted of clitoris, labia minora, labia majora, Urinary meatus/urethral opening and vagina in percentages (93.6%, 30.0%, 18.2%, 82.7% & 79.1%), respectively. In addition, more than three-quarter (80.9%) did not suffer from vaginal discharges while, only (19.1%) had vaginal discharges.

Regarding the characteristics of abnormal vaginal secretions, more than two-thirds of the menopausal women reported that characteristics of natural secretions was white color and transparent in percentages (76.4% & 80.0%), respectively. Alternatively, the menopausal women reported that the characteristics of abnormal vaginal secretions was accompanied by pain, vaginal itching, or a rash and feeling of burning while urinating in percentages (93.6% & 90.0%), respectively.

Most (91.8%) of them had incorrect answer about external genitalia self-examination which is, vaginal self-examination is a way for a woman to look at vulva and vagina. Regarding benefits of external genitalia self-examination as early detection of infection, know the changes that occur to the genitalia and improper treatment of any problem that occurs to the external genitalia in percentages (26.4%, 31.8% & 24.5%), respectively.

**Table (5): Distribution of menopausal women regarding knowledge about external genitalia self-examination (n= 110)**

Items	Correct Answer		Incorrect Answer	
	No	%	no	%
<b>Know when the external genitalia self-examination is done</b>				
First of every month	2	1.8%	108	98.2%
Every three months	3	2.7%	107	97.3%
Every 6 months	6	5.5%	104	94.5%
I don't know the time	82	74.5%	28	25.5%
No self-examination	17	15.5%	93	84.5%
<b>Know who should do the vulvar self-examination</b>				
Doctor	7	6.4%	103	93.6%
Nurse	11	10.0%	99	90.0%
Menopausal women by herself	92	83.6%	18	16.4%
<b>Know the signs and symptoms of an external genital tract infection</b>				
Yes	32	29.1%	78	70.9%
No	78	70.9%	32	29.1%
<b>If yes, then what is it? (no = 32)</b>				
Scratching	29	90.6%	3	9.4%
Burning sensation in urine	31	96.9%	1	3.1%
Abnormal secretions	31	96.9%	1	3.1%
Skin tags or pimples	18	56.3%	14	43.8%
Pain in the external genitalia	7	6.4%	25	22.7%

Regarding knowledge level about external genitalia self-examination and signs and symptoms of an external genital tract infection. Table (5) showed that, more than two thirds (74.5%) of the menopausal women did not know when to do external genitalia self-examination and only (5.5%) of them do self every 6 months. In addition, the majority (83.6%) of the menopausal women did vulvar self-examination by themselves and only (10.0%) of them did it by nurse.

Regarding signs and symptoms of an external genital tract infection, more than two thirds (70.9%) of the menopausal women did not know signs and symptoms of an external genital tract infection. In addition, they reported that scratching, burning sensation in urine and abnormal secretions were the most common signs and symptoms in percentages (90.6%, 96.9% & 96.3%), respectively.

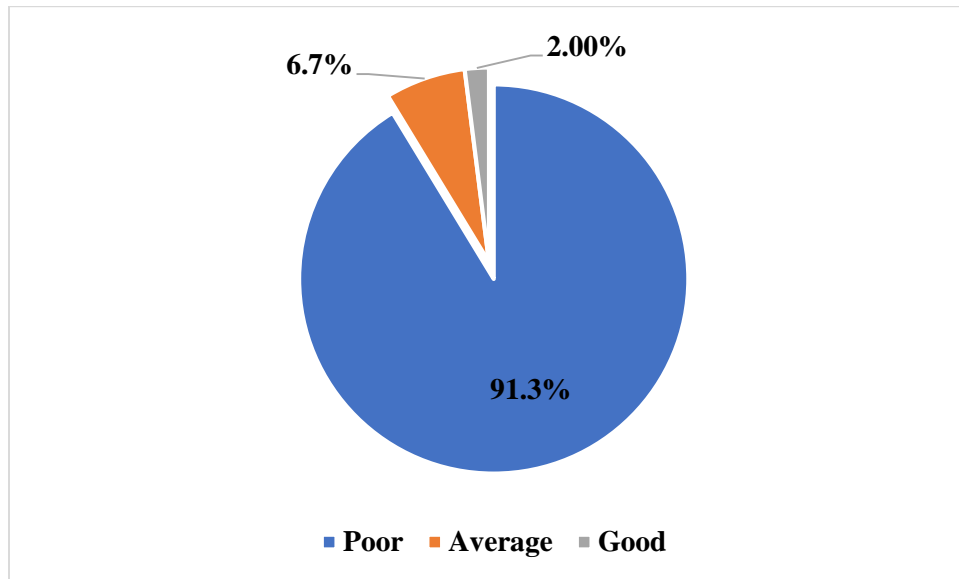
**Table (6): Number and percentage distribution of current vulvar disorders and action taken (n= 110)**

Items	no	%
<b>Vulvar disorders:</b>		
Itching	48	43.6%
Burning sensation	22	20.0%
Abnormal vaginal secretion	19	17.3%
Papules	13	11.8%
Vulvar pain	8	7.3%
<b>Discovered through:</b>		
Symptoms (with vulvar self-examination)	77	70.0%
Accidentally (without vulvar self-examination)	33	30.0%
<b>Action taken</b>		
Used domestic remedies (no. = 76)	76	69.1%
Medical care (no. = 34)	34	30.9%
- Follow prescription	20	58.8%
- Never continue treatment	14	41.2%

\* Number is not exclusive

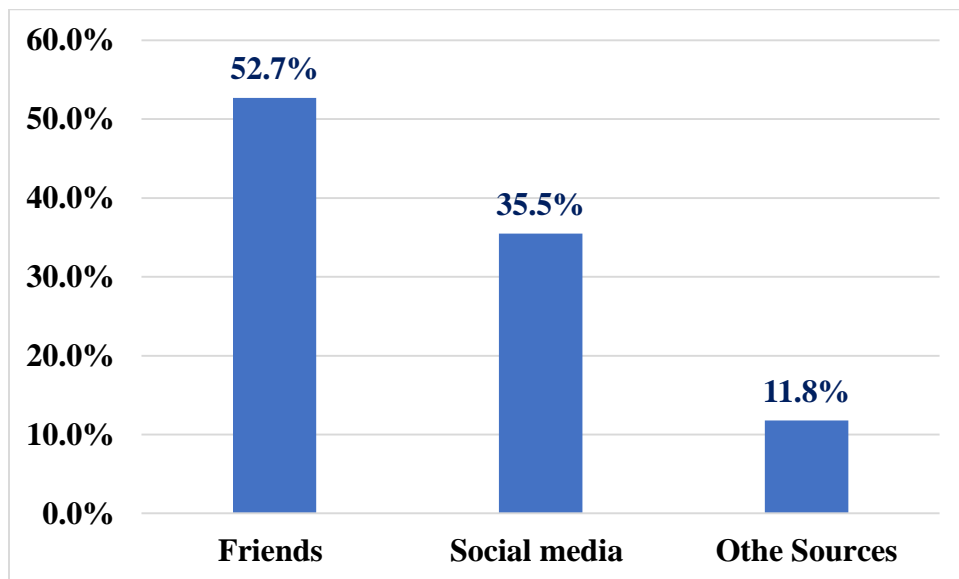
Table (6) showed menopausal women's external vulvar disorders and action taken. Regarding the external genitalia disorders, less than half (43.6%) of menopausal women had itching, and about (20.0%) had burning sensation and only (7.3%) had vulvar pain.

More than two thirds (70.0%) of menopausal women discovered the disorder by their symptoms (with vulvar self-examination) and less than one-third (30.0%) discovered accidentally (without vulvar self-examination). Concerning action taken, more than two thirds (69.1%) of menopausal women used domestic remedies and, less than one third (30.9%) uses medical care in addition, more than half (58.8%) of medical care followed prescription.



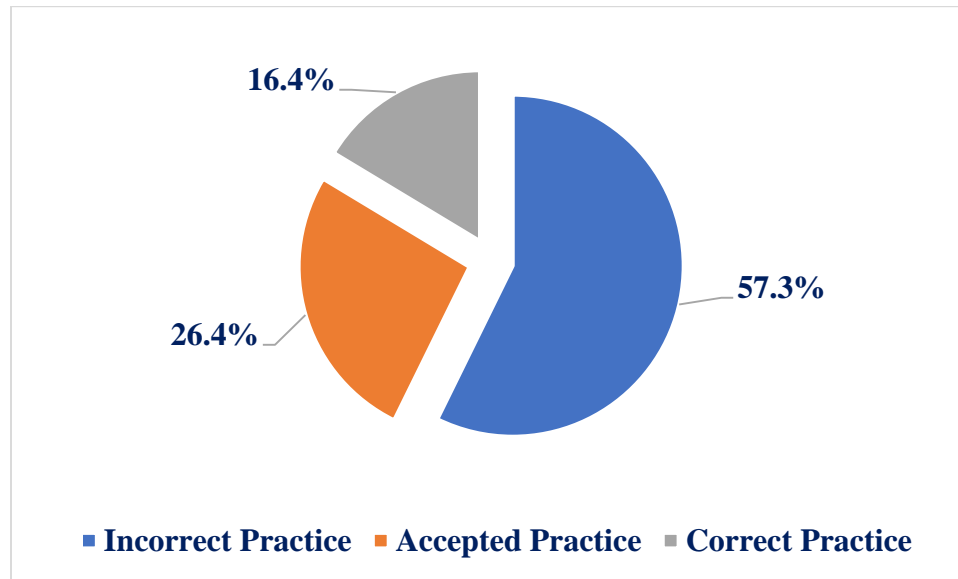
**Figure (1): Percentage distribution of women total knowledge regarding to vulvar self-examination (n=110)**

Figure (1) shows percentage knowledge distribution about vulvar self-examination. Result revealed that, more than three quarter 91.3% of menopausal women had poor knowledge, 6.7% had average knowledge and only 2% had good knowledge about vulvar self-examination.



**Figure (2): Distribution of the studied menopausal women according to their source of information regarding vulvar self-examination (n=110)**

Regarding source of information, Figure (2) showed that, approximately half (52.7%) of menopausal women reported that their source of knowledge regarding vulvar self-examination were from friends and more than one third (35.5%) reported that their source of knowledge was from social media.



**Figure (3): Total practice distribution of menopausal women for vulvar self-examination as reported by menopausal women (n=110)**

Figure (3) shows total practice distribution of menopausal women for VSE as reported by women. Results showed that, more than half 57.3% of the menopausal women had examined their vulva incorrectly and less than one quarter 16.4% of menopausal women examined their vulva correctly.

**Table (7): Correlation between menopausal women's knowledge and practice about vulvar self-examination (n=110)**

Variables		Total Level of Practice						X <sup>2</sup>	P- Value
		Incorrect n=63		Accepted n=29		Correct N=18			
		N	%	N	%	N	%		
Total Level of Knowledge	Poor < 50 % (0 – 15)	63	100	23	96	10	67	17.08	<0.001**
	Average 50- < 70 % (16 – 21)	0	0	5	33	4	50		
	Good 70 % - 100 % (22 – 30)	0	0	1	4	4	50		

Table (7) showed that there was a strong positive correlation between women's knowledge and their practice regarding VSE (<0.001\*\*)

## Discussion

Vulvar self-examination (VSE) is an essential examination that all women should perform regularly, as it enables potential women to detect abnormalities that may indicate

infection, recognize any changes that may occur and discover vulvar cancer in early stage (Chee, J., et al., 2020).

The aim of the current study is to assess of menopausal women performance regarding vulvar self-examination. This aim was achieved through assessing menopausal women knowledge and practice regarding vulvar self-examination.

The present study assessed the performance of menopausal women regarding vulvar self-examination (VSE). Results revealed that nearly two-thirds (64.5%) of menopausal women were aged between 51 and 55 years, with a mean age of  $50.6 \pm 2.4$  years. More than three-quarters (78.2%) of the participants were married, a factor often linked to better health awareness due to increased interest in gynecological health for sexual well-being. In terms of education, less than half (46.4%) of the participants were illiterate, and only 12.7% had attained secondary education, highlighting a gap in formal health education that could influence knowledge and practice of VSE. Furthermore, 61.8% of the participants were housewives, a finding consistent with previous studies suggesting that housewives often have limited access to diverse sources of health knowledge (Ibrahim, 2021).

Socioeconomic and demographic factors were also significant in determining the participants' VSE knowledge and practice. About 73.6% of menopausal women resided in urban areas, which may provide better access to healthcare resources and information compared to rural areas. However, three-quarters (75.5%) of participants reported that their income did not meet life expenses, indicating economic constraints that might limit their ability to prioritize health needs, including self-screening practices. These findings align with Hall and Deware (2020), who emphasized that socioeconomic challenges impact women's health-seeking behavior and self-care practices, including VSE.

The findings further highlighted that educational attainment and occupational status significantly influenced VSE practice. Women with higher education demonstrated better knowledge and performance of VSE, aligning with previous research by Lubish and Greenberg (2020), which indicated that education fosters health consciousness and adherence to self-screening practices. In contrast, housewives were less likely to engage in VSE compared to employed women, who often gain knowledge through workplace interactions (Toss on & Abu Shabana, 2021). These results emphasize the need for targeted educational interventions by healthcare providers, particularly nurses, to empower menopausal women with the knowledge and skills necessary for VSE. This aligns with the findings of Bobak et al. (2020), who highlighted the crucial role of nurses in promoting women's health awareness and self-care practices.

The current study explored the performance of menopausal women regarding vulvar self-examination (VSE) and its correlation with their medical and surgical histories. Table 2 reveals that one-quarter (25.3%) of the participants had a history of hypertension, and less than one-quarter (22.2%) were diagnosed with diabetes mellitus. These chronic conditions may indirectly influence women's VSE practices due to their association with increased health consultations and potential exposure to medical advice on self-care practices. Additionally, 10.3% of the participants had undergone vulvar surgery, such as vulvectomy or radical vulvectomy. These women demonstrated improved VSE knowledge and practice, potentially due to health education provided during their surgical care, as supported by Aydemir et al. (2021), who noted a significant link between previous gynecological surgery and VSE practice.

The surgical history data further highlighted that half (50.0%) of menopausal women had undergone oophorectomy, and less than one-quarter (23.1%) had hysterectomy. Women with these surgical histories may be more vigilant about their health due to their heightened awareness of gynecological issues. This aligns with findings from Hamdy (2020), who reported that women with abnormal symptoms or previous surgeries often engage more in self-examination practices. However, despite the presence of symptoms or medical history requiring regular monitoring, more than three-quarters of participants did not practice VSE, citing lack of knowledge, cultural taboos, and perceived unpleasantness of the procedure (Hassan, 2020; Tosson&AbouShabbana, 2021).

The study results emphasize the need for targeted health education interventions to promote VSE practices among menopausal women, particularly those with surgical histories or chronic conditions. Nurses, as key educators, should focus on increasing awareness about VSE's importance for early detection and disease prevention. This is consistent with the findings of Bobak et al. (2020), who highlighted the nurse's role in empowering women through health education. Addressing cultural and social barriers is crucial to improving VSE practices, especially for women who are at higher risk due to their medical or surgical histories.

The current study examined menopausal women's performance regarding vulvar self-examination (VSE) in relation to their obstetric history. Table 3 reveals that more than two-thirds (73.6%) of the participants experienced menarche between the ages of 11 and 12. Early menarche may contribute to longer exposure to hormonal fluctuations, potentially influencing women's awareness of gynecological health. Additionally, the majority (92.7%) of menopausal women reported no history of abortion, while a small

proportion (5.5%) had experienced one abortion. Obstetric history can play a role in shaping health-related behaviors, as women with reproductive challenges may seek more information about their gynecological health. This aligns with findings from Steefel (2021) and Ahmed (2021), who observed that reproductive history influences women's engagement in self-care practices, including VSE.

The study also showed that more than two-thirds (70.9%) of the participants had two or more living children. Women with multiple children may have increased exposure to healthcare services during their reproductive years, potentially improving their knowledge about self-care practices such as VSE. However, despite these advantages, cultural and educational barriers still hindered many women from performing VSE. This is consistent with findings from Gasalberti (2020) and Tosson&AbouShabbana (2021), who noted that lack of education, social taboos, and inadequate health counseling limit women's engagement in self-examination practices. These results highlight the critical role of healthcare professionals, particularly nurses, in providing targeted education to empower women to incorporate VSE as a routine practice for early detection of potential health issues.

The present study assessed the knowledge levels of menopausal women about external genitalia structures, vaginal secretions, and vulvar self-examination (VSE). Table 4 reveals that the majority of participants had knowledge about some external genitalia structures, with 93.6% identifying the clitoris, 82.7% identifying the urinary meatus/urethral opening, and 79.1% recognizing the vagina. However, only 30.0% and 18.2% correctly identified the labia minora and labia majora, respectively. These findings highlight a gap in comprehensive knowledge of external genital



anatomy, consistent with previous studies by Edwards et al. (2021) and Lynette (2020), which emphasized that many women lack detailed anatomical education.

Regarding vaginal secretions, more than three-quarters of the participants reported no issues, while 19.1% experienced vaginal discharges. Among those aware of normal secretions, 76.4% identified white discharge and 80.0% mentioned transparent discharge as characteristics of natural secretions. Conversely, the characteristics of abnormal secretions, such as pain, vaginal itching or rash, and burning during urination, were recognized by 93.6% and 90.0% of the participants, respectively. This aligns with Hamdy (2020) findings, which noted that menopausal women often experience abnormal vaginal symptoms but may lack awareness of appropriate self-care practices.

Despite some knowledge about genital structures and secretions, most participants (91.8%) incorrectly understood the concept of VSE, often conflating it with vaginal self-examination. Only a minority recognized the benefits of VSE, such as early detection of infections (26.4%), identifying changes in the genitalia (31.8%), and addressing issues promptly (24.5%). This inadequate understanding underscores the importance of targeted health education. As Tosson and AbouShabbana (2021) emphasized, nurses play a pivotal role in equipping women with the skills and knowledge necessary to perform effective VSE.

These findings suggest an urgent need for educational interventions to improve menopausal women's understanding and practices regarding VSE. Comprehensive programs focusing on external genitalia anatomy, characteristics of normal versus abnormal secretions, and practical steps for VSE can bridge these knowledge gaps.

Empowering women with this information is critical for promoting self-care and early detection of potential health issues, as supported by Chee et al. (2020).

The present study assessed menopausal women's knowledge about external genitalia self-examination (VSE) and the signs and symptoms of external genital tract infections. Table 5 shows that more than two-thirds (74.5%) of the participants were unaware of the appropriate timing for conducting VSE, and only 5.5% practiced self-examination every six months. The majority (83.6%) performed VSE independently, while a smaller proportion (10.0%) relied on guidance from a nurse. This lack of knowledge aligns with findings by Chee et al. (2020), which emphasized the limited awareness among menopausal women regarding proper self-examination techniques and timing, often due to inadequate health education.

Additionally, more than two-thirds (70.9%) of the participants lacked awareness of the signs and symptoms of external genital tract infections. Among those who identified symptoms, the most commonly reported were scratching (90.6%), burning sensation during urination (96.9%), and abnormal vaginal secretions (96.3%). These findings reflect a critical gap in health literacy, as noted in similar studies by Hamdy (2021) and Tosson and AbouShabbana (2021), which highlighted that menopausal women often fail to recognize symptoms that warrant medical attention. This underscores the importance of tailored health education programs to enhance menopausal women's understanding of genital health, self-examination, and the early identification of infections.

Table 6 highlights the external vulvar disorders experienced by menopausal women and the actions they took in response. A significant

portion of women reported experiencing itching (43.6%), followed by burning sensation (20.0%) and vulvar pain (7.3%). The findings align with previous studies by Gasalberti (2020) and Ahmed (2021), which also found that vulvar discomfort, such as itching and burning, are common issues faced by menopausal women. Notably, more than two-thirds (70.0%) of the women identified their symptoms through vulvar self-examination, suggesting that self-examination plays a crucial role in the early detection of vulvar disorders. However, 30.0% discovered their symptoms accidentally, indicating a lack of proactive health behavior among some participants.

In response to the symptoms, the majority (69.1%) of the menopausal women opted for domestic remedies, while only 30.9% sought medical care. This finding mirrors those of previous studies by Czerwinski (2022) and Tosson and AbouShabbana (2021), which showed a tendency among women to manage symptoms independently, often using home remedies instead of seeking professional healthcare. Among those who sought medical care, more than half (58.8%) followed prescriptions, reflecting some level of medical guidance in managing vulvar health. These results underscore the importance of promoting professional healthcare consultation and education to encourage timely intervention and reduce the reliance on potentially ineffective home treatments.

Figure 1 presents the knowledge distribution of menopausal women regarding vulvar self-examination. The results indicated that a significant majority, 91.3%, had poor knowledge about vulvar self-examination, highlighting a critical gap in health education among this population. This finding aligns with previous studies by Ahmed (2021) and Tosson and AbouShabbana (2021), which revealed low levels of knowledge and awareness regarding

self-examination practices, especially in populations with limited access to health education. A smaller proportion, 6.7%, had an average level of knowledge, while only 2% of the participants demonstrated good knowledge. This low percentage of well-informed women suggests the need for more comprehensive education on vulvar health and self-examination practices.

The findings emphasize the importance of increasing awareness and promoting educational programs aimed at menopausal women to improve their knowledge and self-care practices. As noted by Edwards et al. (2021), understanding vulvar health and conducting self-examinations are essential for early detection of potential health issues. This lack of knowledge among menopausal women may contribute to delayed diagnoses and inadequate health-seeking behavior, underscoring the need for targeted interventions by healthcare providers, especially nurses who play a key role in educating women on self-care practices (Harris et al., 2020).

Figure 2 illustrates the sources of information regarding vulvar self-examination among menopausal women. The results revealed that nearly half of the participants (52.7%) reported obtaining their knowledge from friends, highlighting the informal nature of health information dissemination in this population. Additionally, more than one-third (35.5%) of menopausal women indicated that social media served as their primary source of knowledge. These findings align with previous research by Hall (2020) and Aydemir et al. (2021), which emphasized the growing influence of social media in shaping health behaviors, though it may not always provide accurate or reliable information. This reliance on informal sources suggests the need for healthcare professionals to offer structured educational interventions that complement these channels and provide accurate,

evidence-based information to enhance women's understanding of vulvar self-examination.

Table 7 provides an overview of the practices followed by menopausal women during vulvar self-examination. A significant proportion of the participants, 88%, reported washing their hands thoroughly with soap and water before performing the examination, which is an essential hygiene step (Aydemir et al., 2021). Additionally, 80% of the women chose a comfortable position to facilitate visibility and expose the major labia, indicating an awareness of the importance of proper positioning. Furthermore, 65% of women used a mirror with a strong light source, which is crucial for improving the accuracy of the examination. Despite these positive practices, only 59% of the women properly inspected the pubic area for any moles, spots, or rashes and made a note of any abnormal findings, highlighting a gap in thoroughness and attention to detail in the process (Hall, 2020).

However, the study also revealed areas where self-examination practices were less consistent. For example, 51% of participants did not examine for any protrusions or changes in the color of the clitoris, which is an important part of vulvar health monitoring. Similarly, 65% of the women failed to measure the distance between the minor labia to get a detailed view inside, and 73% did not gently press with their hand and fingers on all parts of the vulva. These findings suggest that although some essential steps are followed, a considerable proportion of women are not fully engaging in all recommended aspects of the self-examination process. This indicates the need for further education and awareness regarding the comprehensive steps involved in vulvar self-examination (Aydemir et al., 2021).

The study results also reveal a lack of engagement with some crucial examination

techniques. For instance, 68% of menopausal women did not use their index and middle fingers to inspect the vaginal opening, ensuring that the area is moist, flexible, and not swollen. This highlights a potential area of concern, as this step is vital in detecting abnormal changes that may indicate infection or other health issues. In general, the findings underscore the need for improved health education to encourage more thorough and consistent self-examination practices. Providing women with clear, step-by-step instructions and emphasizing the importance of all aspects of vulvar self-examination could enhance their ability to detect early signs of health issues (Hall, 2020).

The results of this study, as shown in Figure 3, highlight significant gaps in the proper practice of vulvar self-examination (VSE) among menopausal women. More than half of the participants (57.3%) reported examining their vulva incorrectly, indicating that a large portion of the women were either not following the recommended guidelines or lacked proper knowledge of the correct procedure. This suggests that while some women are attempting self-examination, their practices may not be effective in detecting potential health issues. The high percentage of incorrect practices underscores the need for better education on how to perform VSE correctly, particularly among menopausal women who may be at an increased risk for certain vulvar and vaginal health concerns (Chee et al., 2020).

On the other hand, only 16.4% of menopausal women reported performing the vulvar self-examination correctly, which represents a smaller but still significant portion of the participants. This finding emphasizes the importance of targeted health education to ensure that more women are able to perform the examination accurately and confidently. Given the potential health benefits of early detection

through VSE, such as identifying abnormal symptoms or infections, improving knowledge and practices among menopausal women is critical. Future interventions could focus on reinforcing the correct steps of self-examination and providing women with accessible resources and support (Chee et al., 2020; Bobak et al., 2022).

The findings from Table 8 reveal a strong positive relationship between menopausal women's knowledge levels about vulvar self-examination (VSE) and their age, with women aged 50–55 years demonstrating the highest levels of good knowledge ( $P = 0.002^{**}$ ). Additionally, there was a highly statistically significant relationship between total knowledge and education level ( $P = 0.001^{**}$ ), as women with higher educational attainment were more likely to have good knowledge about VSE. Similarly, occupation played a critical role in knowledge levels; a highly significant association ( $P = 0.002^{**}$ ) was found, with 86% of working women exhibiting good knowledge. These results suggest that education and occupational exposure might enhance awareness and understanding of self-examination practices, potentially due to better access to health information and resources in professional settings (Chee et al., 2020).

Conversely, other sociodemographic factors such as marital status, residence, and family income showed no statistically significant relationships with knowledge levels ( $P > 0.05$ ). Notably, 57% of women with good knowledge resided in urban areas, although the association between residence and knowledge was not significant. Similarly, family income did not appear to influence knowledge levels, suggesting that awareness and practices of VSE among menopausal women might be driven more by educational and occupational factors than economic or geographic circumstances. These findings highlight the need for targeted

educational interventions, particularly for less educated and non-working women, to bridge the knowledge gap (Bobak et al., 2022).

The findings in Table 9 indicate a strong positive correlation between menopausal women's vulvar self-examination (VSE) practice and their age, with a highly significant P-value ( $<0.001^{**}$ ). Married women demonstrated the highest correct practice rate at 74%, showing a statistically significant relationship between marital status and VSE practice ( $P < 0.05$ ). Additionally, education level played a crucial role, as women with secondary and higher education exhibited significantly better VSE practices ( $P = 0.003^{**}$ ). Occupation also showed a significant association, with 75% of working women practicing VSE correctly ( $P < 0.001^{**}$ ), suggesting that education and occupational exposure may enhance awareness and performance of self-examination practices (Chee et al., 2020).

The study also identified a statistically significant relationship between VSE practice and residence ( $P < 0.05$ ), with urban residents showing higher rates of correct VSE practice. This may reflect better access to healthcare information and resources in urban areas. However, no significant relationship was found between family income and VSE practice ( $P > 0.05$ ), implying that economic status may not be a critical factor influencing the adoption of VSE. These findings underscore the importance of focusing on educational and occupational interventions to improve VSE practice, particularly targeting non-working and rural populations to reduce disparities (Bobak et al., 2021).

The results presented in Table 10 demonstrate a strong positive correlation between menopausal women's knowledge and their practice of vulvar self-examination (VSE) ( $P <$

0.001\*\*). Women who exhibited higher knowledge levels about VSE were significantly more likely to practice it correctly, emphasizing the critical role of education in promoting effective health behaviors. These findings align with prior studies, which have highlighted that awareness and understanding of self-examination techniques greatly enhance their adoption and accuracy (Chee et al., 2020; Bobak et al., 2021). This underscores the need for targeted educational interventions to empower women with the knowledge required for proper VSE, ultimately supporting early detection and improved health outcomes.

### Conclusion

In the light of the study findings, some important facts could be concluded:

More than three quarter of menopausal women had poor knowledge, and less than one quarter had average and good knowledge about vulvar self-examination. In addition, more than half of the menopausal women had examined their vulva incorrectly and less than one quarter of menopausal women had examined their vulva correctly. There was a strong positive correlation between women knowledge and their practice regarding **vulvar self-examination**.

### Recommendations

In the light of the current study findings, the following recommendations are suggested

Designing awareness program for **Design educational program to raise menopausal women awareness regarding to the symptoms required to perform vulvar self-examination**

- Guidelines booklets about benefits and harms of vulvar self-examination should be performed and the correct way to do this examination.

For future studies:

- Distribute guidelines for women about healthy life style and how to manage every menopausal symptom during vulvar self-examination.
- More researches should be conducted considering the demographic and obstetric factors that have a crucial role in precipitating self-management for vulvar self-examination.
- Further study on large sample size in different setting.

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