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Midlife women complaintsregardsurogenital atrophy: An intervention study

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Abstract:
*Urogenital atrophy of menopause, a new term for a condition more renowned asatrophic vaginitis, is a hypoestrogenic condition with external genital, urological andsexual implications that affects >50% of postmenopausal women.Aim of the current study to was to evaluate the midlife women complaints regards urogenital atrophyby usinga quasi- experimental designon convenience sample of*300 *women at eight colleges selected randomly from Sohag University. Tools for data collection: Four tools were used for data collection, tool I for Socio-demographic characteristics Tool II: to collect data related to presence of vulvovaginal symptoms.Tool III:to collect data related to presence of urogenital symptoms.Tool IV: Knowledge assessment tool pre/post educational intervention.* ***Results:*** *More than half of the studied women suffer from vulvovaginal symptoms in the form of dryness, irritation, decreased turgor, urgency, nocturia and increased frequency. Regarding sexual symptoms also more than half of women suffered from loss of libido, lack of lubrication and dys-orgasmic. All domains of knowledge at post intervention improvement than pre intervention. Occupation and marital status had slight frequencies effect on knowledge level. But duration of menopause and history of family planning not predicted by relation to knowledge level.* ***Conclusion and recommendation****Elderly females should be assessed for postmenopausal symptoms and must be aware of this critical stage of women's life. Nurse can improve quality of life of postmenopausal women by educating women about, diagnosing, and appropriately managing symptomatic urogenitalatrophy.*

Key word*: Midlife women, urogenital atrophy*

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I. Introduction

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The middle age stage in a woman's life is a complex period for a woman's complex interaction with multiple roles, in addition to thatit considered as an important preparatory stage to prepare for the stage of aging. Where middle age women are described as a time of increased risk for emotional, physical and financial problems. Where the middle age stage is calculated in most scientific references from the age of 40 to 65 years, including from personal, marital and family crises.(1)

The lower reproductive system is particularly sensitive to the estrogenhormone, where estrogen receptors are found in the vagina, urethra, and pelvic floor muscles. During the reproductive period, estrogen affects the morphology of the epithelium and connective tissue, which plays an essential role in maintaining the function of the pelvic organs. Healthy vaginal epithelium has a role in sexual function and prevention of vaginal infection. Strong connective tissues play a role in supporting the pelvis. Therefore, in menopause, the function of the pelvic organs deteriorates after vaginal atrophy as a result of estrogen deficiency (2).

Menopause is accompanied by a decrease in the level of estrogen, which leads to vaginal atrophy (VA) is an irreversible swelling of the mucous membranes and vaginal tissues. Atrophic symptoms affecting the vagina and lower urinary system are often gradient and often require treatment. Vaginal dryness and urinary system problems increase with the advancement of women during the postmenopausal years, causing itching, burning, dyspareunia and sexual activity often. But despite the different safe and effective options, only a minority will seek medical help. (3).

Common midlife sexual difficulties experienced by women at midlife include:loss of interest in sex, inability to relax, dyspareunia, arousal difficulties, and anorgasmia.Approximately 10–15% of peri-menopausal

women report no sexualdesire, and less than 5% of peri-menopausal women report never, oralmost never, experiencing arousal.4 About 20% of peri-menopausalwomen report occasional dyspareunia, with 5% experiencing thisproblem on most occasions.(4)

During the menopausal period, urethral andbladder dysfunctions develop with increasing age,which results in the decrease of bladder capacity and urinating speed and the increase of urinating time. Depending on the decrease in estrogen level; the decrease of the tonus of sphincters, impairment of the closing capacity of urethral lumen, decrease of urethralength and hypermobility in case of stress are seen, as well asdifficulty in holding urine, interrupted urinating and nocturia is seen. women do not perceive it as a life-threatening problem and just ignore it, which makes it too late to apply to a medical institution and seek atreatment.(5)&(6)

Significance of the study

Since the main objective of taking care of postmenopausal women is to have them achieve a goodquality of life, urogenital problems shouldnot be ignored just because of without complaint. According to Central Agency for Public Mobilization and Statistics 2019. In Egypt life expectancy at birth for females increased from 72.5 in 2014 to 74.7 years in 2018. The highest expectation of survival for older women in the age group (60-64 years). Due to a lengthening of the average lifespan and longer life expectancy after menopause urogenital atrophy is destined to become a clinical problem with an increasingly greater epidemiologicalsignificance so that the present study was aimed to determine the prevalence of urogenital complaints in midlife women

Aim of the study:

This study was aimed to: -Evaluate the midlife women's complaints regards urogenital atrophy by using an intervention study

Objectives

- Assess midlife women's complaintsregards urogenital atrophy.
- Identify midlife women action toward urogenital atrophy.
- Find out the impact of educational program regards urogenital atrophy onwomen's knowledge.

Research hypothesis

The educational program regards urogenital atrophy will improve women'sknowledge.

Subjects and Methods:

Research design:

- A quasi- experimental design was used in the current study

Subjects and Methods:

Setting of the study:

This study was conducted at eight– faculties selected randomly from sohag University (faculty of Nursing, Education, Commerce, Literature, Engineering, Pharmacy, Medicine, and Faculty of Science). **Subjects**: A convenience sample composed of 300 women, all available women, who are working as administrators and workersat the selected eight colleges in Sohage University were recruited for the study.

Inclusion criteria:

1.Women aged between 40-60.
2. Women who have menopausal symptoms.
3. Women who have stopped menstruation for at least 6 to 12 months

Tools for data collection: Four tools were used for data collection.The study questionnaires were designed by the researchers after revising of related literature and getting opinions of expertises for content, validity, and, includedthe following:-

Tool I: Interview questionnaire to collect data related to socio-demographic characteristics namely: Age, marital status, educational level and BMI, as well the medical and obstetric history was evaluated…..etc.

Tool II: Interview-questionnaire to collect data related to presence of vulvovaginal symptoms like:Itching, irritation, burning…….etc. and what is the action taken toward this symptoms.

Tool III: Interview-questionnaire to collect data related to presence of urogenital symptoms like: urgency, increased frequency, nocturnal, dysuria, incontinence……..etc. and what is the action taken toward this symptoms

Tool IV: Knowledge assessment tool (pre/post educational intervention). It was written in Arabic language in the form of close and open ended question and it consists of the following two parts:

Part I: Concerned with women's knowledge regarding menopause like, definition of menopause, age of onset of menopause,causes of onset of menopause

stage of menopause and hormone responsible about onset of menopause.
Part II: Focused on women's' knowledge regardingUrogenital changes of menopause, treatment of menopausal symptoms , hormonal treatment of menopausal symptoms, complementary therapy of menopausal symptoms.

Ethical considerations: To carry out the study, the necessary official approval was obtained from the manager of the selected eight colleges. The aim of the study was explained to each woman and an oral consent to participate was obtained. Women were assured that the obtained information will be treated confidentially and will be used only for the purpose of the study.

Procedure of data collection

- Validity of the research tools was ensured through a review by 3 experts in nursing and the necessary modifications were made and the tools language was also tested for clarity of meaning.
- The agreement was obtained from women verbally before being elaborate in the study. During the meeting, the questionnaire was filled in. An official permission was taken from the director of the selected eight colleges in Sohag University.
- A pilot study was conducted on 10% of the study subjects to ensure the possibility of the tools and estimate time needed to answer the questions.
- Data collection for the study was carried out over a time of 5 months from beginning of August 2019 to end of December 2019.
- The researchers informed the women that sharing is volunteer, and privacy of information will be assured and that they have the right to withdraw at any time without giving any reason.
- Researchers interviewed the women face to face and introduced themselves to the eligible women and briefly clarified the nature of the study.
- The filling of questionnaire took 10-20 minutes by participants.
- The researchers spent two to three days every week, and in each day, they interviewed about 25 women maximally.
- The researchers divided the participants into small groups each group contains 5-10women. Meeting done with each group in their faculty according to their work circumstances. The intervention was implemented in one interactive session for each group and each session was conducted for 30-40 minutes. Health educational sessions were given to women in the form of lectures and group discussion by using educational booklet prepared by researchers. At the beginning of session an orientation to the educational intervention such as; the rationale, importance of the subject, contents, time and location were elaborated in order to establish good communication. The lectures included information about definition of menopause, age of onset of menopause, urogenital changes of menopause, causes of onset, hormone responsible about onset of menopause and its stages, treatments of symptoms like hormonal and complementary treatment. An additional 10 minutes were assigned at the end of the session for an open discussion with women about this topic.
- Evaluation phase: For each women two evaluations were done, the first one was at the beginning of the study as a baseline data (pre-test). The second evaluation (posttest) was conducted one month after the intervention in order to detect the level of women's' knowledge after health education. The same assessment tools were used during the first and second evaluations.

Statistical Analysis: Data collected from the studied sample was revised, coded and entered using Personal Computer (PC). Computerized data entry and Statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 22. Data were presented using descriptive statistics in the form of mean and S.D or number and percentage. T test is a type of inferential statistic used to determine if there is a significant difference between the means of two groups. Linear regression model is a linear approach to modeling the relationship between a scalar response and one or more explanatory variables. Insignificant >0.05 Significant 0.01 – 0.05 Highly significant <0.01.

II. Results

Table (1) Number and percentage distribution of studied women related to their characteristics (N=300)

	N	%
Age		
40 – 46	57	19
47 - 53	112	37.3
54 – 60	131	43.7
Mean s.d51.49 ± 5.66		
Occupation		
Housewife	42	14
Working	258	86
Education		
Primary school	54	18
Preparatory & secondary school	123	41
University	123	41
Marital status		
Married	264	88
Divorced	8	2.7
Widowed	28	9.3
Duration of menopause		
1- 5	121	40.3
5 – 10	165	55
11 – 20	14	4.7
Mean s.d 3.42 ± 4.24		
Smoking		
Never	213	71
Active	0	0
Passive	87	29

Table (1) Illustratesthat mean age of studied women was 51.49 ± 5.66, 86% of them working and only 2.5% of them was illiterate. Also, this table detected that mean duration of menopause 3.42 ± 4.24. Regarding smoking, showed that 29% exposure to passive smoking.

Figure (1) Percentage distribution of studied women related to their body mass index (N=300)

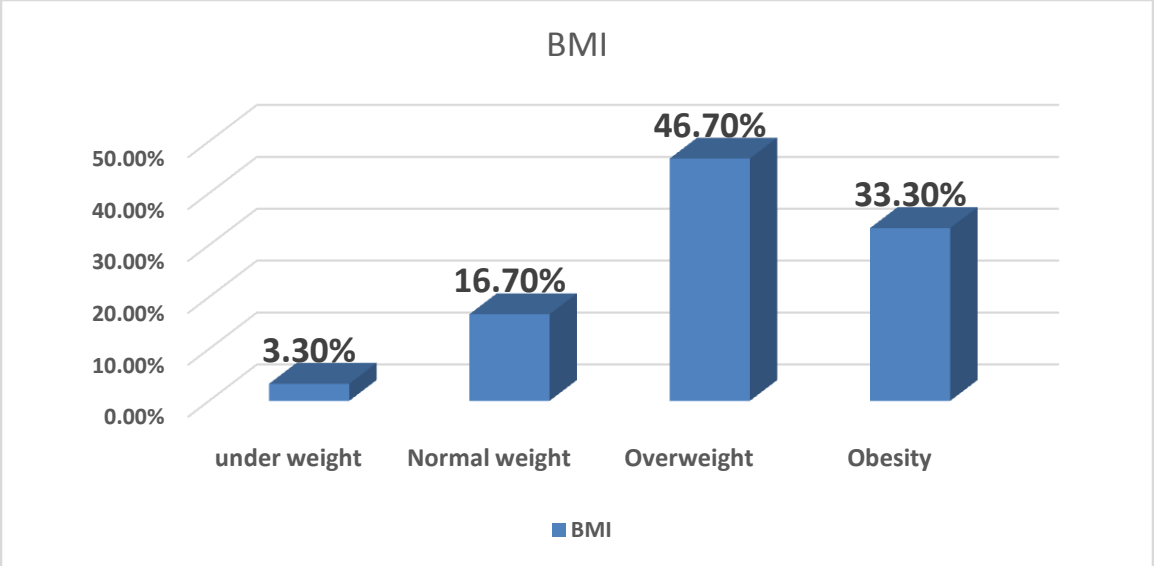

Figure (1) reveales that 46.7% and 33.3% of studied women were overweight and obesity. Also, 3.3% of them were under weight. While 16.7% of studied women were normal weight.

Figure (2) Percentage distribution of studied women related to their medical history (N=300)

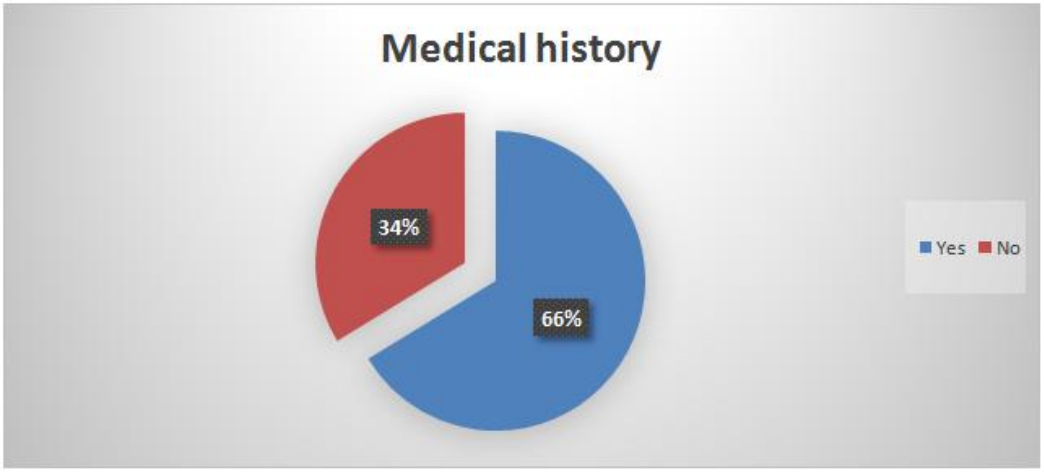

Figure (1) showed that 66% of studied women had medical history while 34% of them had no medical problem.

Table (2) Number and percentage distribution of studied women related to their obstetric history (N=300)

Items	N	%
Number of parity		
0 -3	210	70
4 - 6	90	30
Mean s.d3.00±1.12		
Mode of last delivery		
Vaginal	207	69
C.S	93	31
History of family planning methods		
Yes	271	90.3
No	29	9.7
Type of family planning methods		
Hormonal	29	9.7
IUD	194	64.7
Surgical	35	11.7
Nature	13	4.3
other	29	9.7

Table (2) illustratesthat mean number of parity was 3.00±1.12. Regarding mode of last delivery, 69% of them was vaginal delivery. Also, 90.3% of studied women used family planning method and 64.7% of them used IUD methods

Table (3) Number and percentage distribution of studied women related to their vulvovaginal symptoms (N=300)

Items	Yes		No	
	N	%	N	%
Dryness	190	63.3	110	36.7
Irritation	93	31	207	69
Dyspareunia	43	14.3	257	85.7
Vaginal/pelvic pain and pressure Tenderness	22	7.3	278	92.7
Pruritus vulvae	43	14.3	257	85.7
Decreased turgor and elasticity	100	33.3	200	66.7
Suprapubic pain	54	18	246	82
Leukorrhea	38	12.7	262	87.3
Ecchymosis	31	10.3	269	89.7
Erythema	87	29	213	71
Thinning/graying pubic hair	78	26	222	74
Burning	32	10.7	268	89.3
Itching	26	8.6	274	91.3
Action to ward this symptom				
Visit doctor	56	18.7	244	81.3

Search in internet	57	19	243	81
Ask relative	45	15	255	85
Use complementary therapy	32	10.7	268	89.3
Other	12	4	288	96

Table (3) represents that 63.3% of studied women suffered from dryness, 31% suffered from irritation, 33.3% suffered from decreased turgorand elasticity and 29% suffered from erythema. Regarding action toward this symptom, only 18.7% visited doctor and 10.7% of them used complementary therapy.

Table (4) Number and percentage distribution of studied women related to their urinary symptoms (N=300)

Items	**Yes**		**No**	
	N	**%**	**N**	**%**
Urgency	200	66.7	100	33.3
Increased frequency	114	38	186	62
Nocturia	134	44.7	166	55.3
Dysuria	101	33.7	199	66.3
Incontinence	65	21.7	235	78.3
Recurrent urinary tract infection	44	14.7	256	85.3
Action to ward this symptom				
Visit doctor	97	32.3	203	67.7
Search in internet	52	17.3	248	82.7
Ask relative	17	5.7	283	94.3
Use complementary therapy	41	13.7	259	86.3
Other	16	5.3	284	94.7

Table (4)representsthat 66.7%, 44.7% and 38% of studied women suffered from urgency, nocturia and increased frequency, respectively. Also, regarding action toward this symptom 32.3% visit doctor and 17.3% of them searching in internet.

Table (5) Number and percentage distribution of studied women related totheir sexual symptoms (N=300)

Items	**Yes**		**No**	
	N	**%**	**N**	**%**
Loss of libido	182	60.7	118	39.3
Lack of lubrication	150	50	150	50
Dys-orgasmic	124	41.3	176	58.7
Pelvic pain	123	41	177	59
Bleeding or spotting during intercourse	58	19.3	242	80.7
Loss of arousal	71	23.7	229	76.3
Dyspareunia	12	4	288	96
Action to ward this symptom				
Visit doctor	17	5.7	283	94.3
Search in internet	46	15.3	254	84.7
Ask relative	27	9	273	91
Use complementary therapy	29	9.7	271	90.3
Other	12	4	288	96

Table (5)detectsthat 60.7%, 50% and 41.3% of studied women suffered from loss of libido, lack of lubrication and dys orgasmic, respectively. Also, action toward this symptom, 15.3% of studied women searching in internet and only 5.7% visiting doctor.

Table (6) Compare means of knowledge score for studied women between pre and post intervention (N=300).

Items	Pre	Post	T test	P value
	Mean s.d	Mean s.d		
Definition of menopause	1.01±.082	2±0.082	211.07	.000**
Age of onset of menopause	1.36±.481	2±000	23.61	.000**
Urogenital changes of menopause	1.00±.000	2.12±.322	59.98	.000**
Causes of onset of menopause	1.20±.009	2.12±.351	60.148	.000**
Hormone responsible about onset of menopause	1.00±.000	2.35±.479	48.880	.000**
Stage of menopause	1.04±.011	2.23±.423	50.312	.000**
Treatment of menopausal symptoms	1.00±.000	2.11±.579	32.104	.000**
Hormonal treatment of menopausal symptoms	1.00±.000	1.98±.703	24.136	.000**
Complementary therapy of menopausal symptoms	1.12±.322	2.03±.496	26.803	.000**
Total	9.75±1.05	18.44±4.19	38.641	.000**

**highly significance <0.01

Table (6)revealsthat mean scores of all domains of knowledge at post intervention improvement than pre intervention. Also, showed that there was highly significant difference between pre and post intervention at p value < .01.

Figure (2) Mean score distribution of studied women related to their total knowledge at pre and post intervention (N=300)

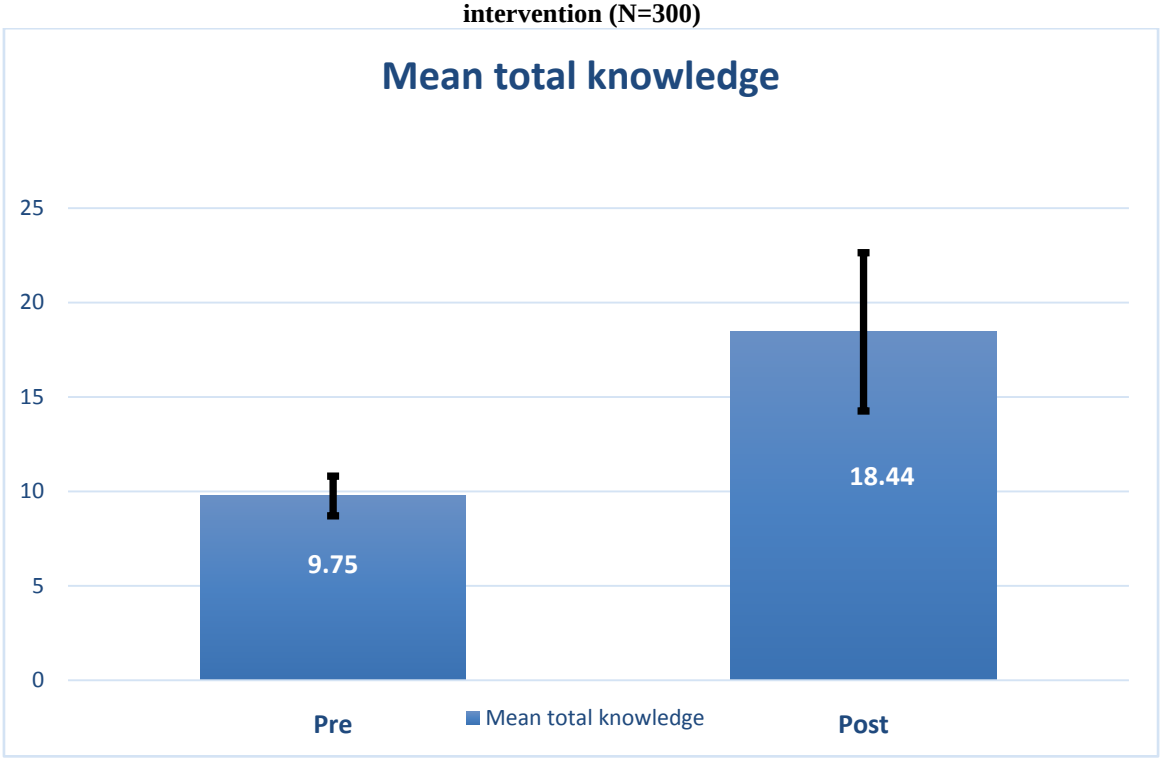

Figure (2)reveals that mean score of total knowledge pre intervention was 9.75 with standard deviation 1.05, while post intervention mean was 18.44 with standard deviation 4.19.

Table (7): Multiple Linear regression model

	Unstandardized Coefficients		standardized Coefficients		
	B		β	**T**	**P. value**
Age	.385		.374	8.133	.018*
Occupation	.498		.511	6.564	.026*
Educational level	.567		.434	9.460	.007**
Marital status	.154		.231	5.024	.014*
Duration of menopause	.016		.206	1.260	.079
History of family planning	.023		.199	1.370	.065

Model summary				
Model	R	R square	Adjusted R square	Std. error of estimate
Regression	.894	.799	.751	.434

a. Dependent Variable: Knowledge level
b. Predictors: (constant) **Age, Occupation, Educational level, Marital status, Duration of menopause and History of family planning.**

Table (7) clarifies that, there was significantly higher frequencies effect of educational levelas predictors on knowledge level (p = <0.01). While age, occupation and marital status had slight frequencies effect on knowledge level with p value < 0.05. But duration of menopause and history of family planning not predicted by relation to knowledge level (p > 0.05).

III. Discussion

Healthy urogenital epithelium has a role in urinary and sexual function and prevention of vaginal infection, as strong connective tissues play a supporting role in the pelvis. In cases of estrogen deficiency, as in menopause, the function of the pelvic organs deteriorates. In Egypt, reproductive and sexual problems are not a complaint for postmenopausal women, as postmenopausal women visit doctors who suffer from problems other than reproductive complaints. Some of them have hidden sexual problems associated with menopause. Because it has a bad effect on further exacerbating the problem.(7)

The mean age of women in the present study was 51.49 ± 5.66 in agreement of this the mean age of menopause in Egypt according to **Sallam (8) and Ashrafi, Kazemi (9**) who reported thatthe age at which natural menopause occurs is between the ages of 45 and 55 years for women worldwide.

Majority of women in the present study were working and educated by different level. Also, mean duration of menopause 3.42 ± 4.24 and majority of the studied women were overweight or obesity.In the same line **Mostafa (10)** reported that, more than two-third of women were illiterate and less than one- seventh of women having university education and majority of women were house wife. In a similar study conducted by**Indhavivadhana(11)** who reported that the mean + SD of age, duration of menopause, body mass indexwere 48.4 + 7.63 years, 5.5 + 3.70 years and 24.1 + 3.94 kg/m2, respectively. Also**Palacios, Mejía , Neyro.(12)** reported the factors like a Body Mass Index (BMI) > 27kg/m2 and no physical exercise resulting in a decrease in genitourinary vascularization.

Egypt commitment maker 2017 (13)reported that some medical conditions are associated with menopause these medical conditions like diabetes mellitus,hypercholesterolemia, hypertension, cardiovascular disease, neurologic disease, psychiatric disorders, andgenitourinary disease. Certain non-neoplastic conditions such as squamous hyperplasia, contact dermatitis, andlichen sclerosis These conditions require a definitive diagnosis. In agreement with the previous report More than half of the studied women had medical history of problem necessitating medication.

Also **Egypt commitment maker 2017(13)**reported that increase prevalence rate of all contraceptive methods used among married women (CPR) from 58.5% in 2014 to 62.8% by 2020 and 52.9% of Egyptian women used IUD. In agreement of the previous data mean number of gravity and parity of present study subjectwas 3.61 ± 1.39 and 3.00±1.12, respectively. Also, majority of studied women used family planning method and more than half of them used IUD.

As regard urogenital symptoms more than one-thirdof studied women suffered from dryness, irritation, decreased turgor, elasticity and erythema. Regarding action toward this symptom, only 18.7% visited doctor and 10.7% of them used complementary therapy.Despite the distress caused by symptoms of vulvovaginal atrophy the majority of menopausal women do not seek medical treatment.

The current result agreed with**Nappi, Kokot-Kierepa(14)** reported that Commonly reported symptoms include dryness, irritationof vulva, burning, dysuria, dyspareunia, and vaginal discharge.Symptoms of VVA can be severe enough tointerfere with a woman's ability to have pain-free sexualactivity.

As regards urinary complainsaround half of studied women suffered from urgency, nocturia and increased frequency, respectively. Also, regarding action toward this symptom 32.3% visit doctor and 17.3% of them searching in internet.

In agreement with the previous finding **IuliiaNaumova, Castelo-Branco (15)**who reported that vulvovaginal atrophy (VVA) is a silent epidemic that affects up to 50%–60% ofpostmenopausal women who are suffering in silence from this condition.More than half of menopausal women are concerned about the symptoms of VVA, such asdryness, burning, itching, vaginal discomfort, pain and burning when urinating, dyspareunia, andspotting during intercourse.Also **Moustafa (10)** who reported that more than one – third (38.4%) was moderate urogenital symptoms ,less than one-third (30.0%) was moderate dryness of vagina.

As regard sexual function around half the study subject suffered from loss of libido, lack of lubrication and dys-orgasmic, respectively. Estrogen deficiency can affect other aspectsof sexual function, including reduced vaginal blood flowand a reduced capacity for arousal and orgasm. Regards action toward this symptom, less than one third of studied women searching in internet or visiting doctor. As some women also develop fear and shame of pelvicexaminations or discus sexual problem and prefer to search in internet.Most menopausal women tend to seek medical care for physical symptoms only and neglect other symptoms especially sexual symptoms.

In the same line **IuliiaNaumova, Castelo-Branco. (15)**and **Martin. (16)** illustrated that dyspareunia has been shown to be stronglyassociated with female sexual dysfunction in postmenopausal women.Sexual dysfunction is a common multidimensional problem for postmenopausal women and often impairs the quality of lifeof these women. Decreased genital arousal and vulvar paindisorders may occur as a consequence of VVA.

Postmenopausal women have been neglected by the medical community. Today with prolonged life expectancy women may spend as much as one third of their lives in menopause. There is an increasing need for better quality of live and in particular psychological well-being . So that the present study results shows that the mean scores of all domains of knowledgeat post intervention improvement than pre intervention. Also, showed that there was highly significant difference between pre and post intervention.In a study conducted by **Moustafa (10)** who reported that post-menopausal women knowledge about menopause, regarding to definition of menopause, less than three-fourth of answered wrong answer.

In the same direction**Abo-Matty(17)**reported thatpostmenopausal women have poor knowledge regarding menopause so it is important to developing and dissemination of educational material to raise community awareness about menopausal causes, needs, especially nutritional, psychological and emotional needs and possibility of symptomatic treatment. Also **Mahmoud(18)** whorevealed that there were significantimprovements in different knowledgeparameters after the program withvariation in improvement level from oneknowledge parameter to another

Finally there was significantly higher frequencies effect of educational levelas predictors on knowledge level ($p = <0.01$). While age, occupation and marital status had slight frequencies effect on knowledge level with p value < 0.05. But duration of menopause and history of family planning not predicted by relation to knowledge level ($p > 0.05$).In the same line**Orabi.(19)** women ofemployees and skilled workers had moreinformation about menopause before theintervention than women of othereducational or work levels of husbandsas living with educated and moreoriented people is usually reflected onother family membersprogram improvement was more obviousin lower educational and work levels thathad lower knowledge from the start. As well as this result was to some extent similar to thestudy done by **Mahmoud (18)**who reported that Familyincome had no statistically significanteffect on improvement of knowledgewhen studied alone but whenthe socioeconomic level is studied as awhole, this study showed thatimprovement of knowledge wassignificantly higher among people of lowsocioeconomic level than people ofmoderate and low socioeconomic levels.

IV. Conclusion

Based on the present study results:- Urogenital atrophy is still an under-addressed, under-diagnosed, and consequently under-treated condition. It affects the quality of life of postmenopausal women.Midlife - women are becoming aware that preserving urogenital and sexual longevity is a major step in gender equality and healthy living. Early recognition of signs and symptoms of urogenital atrophy individual counseling and personalized treatment strategies are key-steps in helping women to maintain quality of life of post-menopausal women.

V. Recommendation

- Menopause needs to be on public healthagenda as elderly females should be assessed for postmenopausal symptoms andmust be aware of this critical stage of women's life
- Nurse can improve quality of life of postmenopausal women by educating women about, diagnosing, and appropriately managing symptomaticurogenital atrophy.
- Conducting mass media campaigns within P.H.C and M.C.H which motivate menopausal women to seek treatment from professional resources.
- Nurse as health care providers should encourage women to express their feeling about their sexual problems because sexuality is seldom considered counseling of midlife and aging women and they may need help to adapting sexual practices, through establishing special clinics to provide care for menopausal women.

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