

Effect of Instructional Guidelines on Knowledge and Attitudes of Perimenopausal Women regarding Endometrial Cancer

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Abstract

Background: Perimenopause means around menopause and refers to the time during which the body makes the natural transition to menopause. Endometrial cancer is the 6th most commonly occurring cancer in women worldwide and the 15th most common cancer overall. **Aim of the research:** To evaluate effect of instructional guidelines on knowledge and attitudes of perimenopausal women regarding endometrial cancer. **Research design:** A quasi-experimental design was utilized to fulfill the aim of this research. **Research setting:** The current research conducted in faculty of nursing and faculty of education, Benha University. **Sample type:** A convenient sample was selected from the above mentioned research setting. **Sample size:** All administrated women at the Faculty of Nursing (30) and Faculty of Education (55) Benha University > 42 years during the time of data collection, (Total sample size 85). **Tools of data collection:** two main tools were utilized: **tool (I)** Self administrated questionnaire sheet, it was cover the following parts: Socio-demographic characteristics such as (age, level of education, social status, residence and family income), History of studied women such as (menstrual and obstetric history, birth control history, medical history and surgical history) and assessment women's knowledge regarding endometrial cancer, **tool (II)** Modified likert scale for menopausal women's attitudes regarding endometrial cancer. **Result:** There was a high statistically significant positive correlation between women's total knowledge and their attitudes regarding endometrial cancer at before and after implementation of instructional guidelines ($p \leq 0.001$). **Conclusion:** Implementation of Instructional guidelines had a positive effect on women's knowledge and attitudes regarding endometrial cancer. **Recommendation:** Conduct a nationwide screening program for women to detect any changes in the reproductive system to prevent endometrial cancer.

Keywords: Attitudes, Endometrial cancer, Instructional guidelines, Knowledge, Perimenopause.

Introduction

Perimenopause represents progression from a women's fertile life to climaterium with wide sexual hormones fluctuations until amenorrhea. The transition to menopause usually lasts about 7 years but can last as long as 14 years. Women undergo a series of physiological, affective, psychological, social and physical changes, clinically called perimenopausal syndrome¹¹

Significant differences have been reported by women within and across cultures¹⁵. have observed that socioeconomic (e.g., working status and income); lifestyle (e.g., smoking and dietary practices); and biological variables (e.g., body weight and parity) are considered as predictors of prerimenopausal symptoms.

Endometrial cancer is the most common type of cancer in the uterus. It usually takes years to develop. Endometrial cancer is often detected at an early stage because frequently produces abnormal vaginal bleeding. If endometrial cancer is discovered early, removing the uterus surgically often cures endometrial cancer²⁰

Many established risk factors for endometrial cancers are related to an imbalance between estrogen and progesterone exposures, including obesity and the use of unopposed estrogen therapy. Use of combined oral contraceptives (OCs) which is associated with progesterone-dominant states reduces the risk of endometrial cancer. Other risk factors include early menarche, late menopause, family history of endometrial, ovarian or colon cancers and type 2

diabetes, infertility and never having children and being treated with tamoxifen for breast cancer²³

Some women with endometrial cancer have no symptoms until the disease has spread to other organs. But endometrial cancer is usually diagnosed by the appearance of symptoms. It's important to have a doctor check out any bleeding or discharge not related to your menstruation this means unusually heavy irregular menstrual periods or bleeding between periods, difficult or painful urination, pain or mass in the pelvic area, unexpected weight loss and pain during intercourse²⁸

There's no sure way to prevent endometrial cancer but there are things help lower risk of developing endometrial cancer and based on changing risk factors whenever possible. Getting regular physical activity may also be a way to help lower endometrial cancer risk. An active lifestyle can help stay at a healthy weight, as well as lower the risk of high blood pressure and diabetes²⁷

Diagnosis of endometrial cancer is made first by a physical examination, endometrial biopsy or dilation and curettage (removal of endometrial tissue). This tissue is examined histologically for characteristics of cancer. If cancer is found, medical imaging may be done to see whether the cancer has spread or invaded tissue. Most women will be treated with surgery first. Some may need additional therapy such as chemotherapy, radiation therapy and hormone therapy²⁴

The nurses play a significant role in the primary prevention through health education and promotion of women regarding endometrial cancer prevention. Nurses role in the secondary level prevention is also crucial through screening, early detection and early nursing care of the disease. Moreover, nurse has a vital role of delivering correct information to women and careers about risk factors, identifying early indicators of uterine cancer, encouraging females to undergo uterine cancer screening often and about preventative measures for uterine cancer¹⁶

Significance of the research

Women's health is considered a basis for the health of the population, families and society, as well as a development indicator in countries. Women are in need for more attention and care to have a good quality of life and to minimize the social and financial burden on patients, families and the community. So, investigating the level of knowledge and attitudes of women about endometrial cancer warning signs can play an important role in disease prevention at the community level²²

According to a research done by², endometrial cancer incidence rate is increasing over time in Egypt compared to other countries. The incidence rate increased significantly during the 12-year period with endometrial cancer, by 68% in Egypt and 54% in those with endometrial cancer due to adenocarcinoma. The postmenopausal Egyptian women comprised the fast majority of endometrial cancer as in other countries and recommended that future studies. Therefore, this research was conducted to apply an instructional guidelines to improve women' knowledge and attitudes regarding endometrial cancer. Thus, the following research may help in prevention of endometrial cancer and improving women's knowledge and attitudes.

Aim of the research

To evaluate effect of instructional guidelines on knowledge and attitudes of perimenopausal women regarding endometrial cancer.

Research hypotheses

H1: Perimenopausal women were exhibit higher level of knowledge scores regarding endometrial cancer after implementation of instructional guidelines than before.

H2: Perimenopausal women were exhibit a positive attitudes after implementation of instructional guidelines than before.

Research design:

A quasi experimental study design was used in this research (pre post-test).

Research setting:

The research was conducted faculty of nursing and faculty of education, Benha university hospitals.

Sampling:

- **Sample type:** A convenient sample was selected from the above mentioned research setting.
- **Sample Size:** all administrated women at the Faculty of Nursing (30) and Faculty of Education (55) Benha University > 42 years during the time of data collection, (Total sample size 85).

Tools for data collection:

It included two main tools:

- **Tool (I): Self administrated questionnaire sheet (Appendix I):** It was developed by the researcher, after reviewing related literature⁸⁻¹¹. It was written in Arabic language which cover the following four parts:- It included four parts:
 - **Part (1): - Socio – demographic data:** it included 5 items concerning with (age, level of education, social status residence and family income).
 - **Part (2): - History of studied women:** it included 4 items such as (menstrual and obstetric history, birth control history, medical history and surgical history).
 - **Part (3): Assessment women's knowledge regarding endometrial cancer:** it included 4 items such as (definition of endometrial cancer, signs and symptoms, risk factor, complications, treatment and prevention of endometrial cancer.

Scoring system of knowledge:

Each item was assigned a score of (2) given when the answer was correct and a score of (1) when the answer was incorrect or don't know. Total knowledge score was converted into percentages and classified as the following:

- Poor when the total scores less than 50%.
- Average when the total scores 50% to less than 75%.
- Good when total score 75% to 100%.

Tool (III): Modified likert scale:

It was adapted¹² from assess the perimenopausal women's attitudes toward endometrial cancer. It includes 18 statements.

Scoring system:

To obtain the outcome of attitudes scale, each statement scored as following; score (2) for "agree", score (1) for "uncertain" and score (zero) for "disagree". Total attitudes score was converted into percentages and classified as the following:

- Negative attitudes when the total score < 60% statement will be evaluated
- Positive attitudes when the total scores ≥ 60%.

Tools validity and reliability

Tools validity: The tools of data collection were tested and reviewed for its content validity by panels of three experts in the field (two obstetrics and gynecological nursing professors and one of obstetric medicine) at Benha faculty of nursing to test content validity.

Reliability: the tool questionnaire was modified related to clarity of sentences and appropriateness of content. Reliability was done by Cronbach's Alpha coefficient test for testing the internal consistency of tools. The internal consistency of knowledge was (0.832) and attitudes were (0.853).

Ethical considerations:

Ethical aspects were considered before starting the study as the following:

- Approval of the Faculty ethical committee for scientific research was obtained before starting participation of the study.
- The women were informed with the purpose and benefits of the study at the beginning of the interview and throughout the study stages.
- Oral consent was obtained from studied woman before starting data collection.
- Studied women were ensured the data were remaining confidential and used for study purpose only.
- The researcher emphasized that participation is voluntary; each woman had the freedom to withdraw at any time of study.

Pilot study:

The pilot study was carried out on ten percent of the total sample size (8 women) to test the study tools' simplicity, clarity and applicability and estimated the time required to fill in the tools. Since no modifications have been made and relative rarity of cases, the women in the pilot study were included in the study sample.

Fieldwork:

The study was carried out at the beginning of December 2021 to the end of May 2022. The researcher was visited the previously mentioned setting three days / weeks (Saturday, Sunday and Monday) from 10 am to 12 pm. The researcher was conducted the study through three sequential phases: first phase (Preparatory phase), second phase (Implementation phase) and third phase (Evaluation phase).

The preparatory phase:

During this phase the researcher was reviewed national and international advanced literature of various aspects of the study using book, articles and internet to develop tools of data collection, then pilot study was done to ascertain content validity and reliability for tools was done. An official permission to conduct the study was obtained.

Implementation phase

- The researcher visited the previous mentioned setting three days/week.
- The data was collected by the researcher through distribution of self-administered questionnaire to assess studied women socio demographic data and previous history, menstrual, obstetrical, medical and surgical and birth control history. The average

time required for completion the different questionnaire was around 15-30 minutes.

- Then the researcher distributed women's knowledge questionnaire to assess women's knowledge regarding endometrial cancer. The average time required for completion the questionnaire was around 10-20 minutes.
- The researcher distributed the modified likert scale to assess the priemenopausal women's attitudes regarding endometrial cancer. The time required for completion the questionnaire was around 10- 20 minute.
- The researcher interviewed the studied woman individually in separate place to obtain the trust confidence between the researcher and studied woman.
- The researcher design 4 theoretical session regarding endometrial cancer and instructional guidelines regarding prevention the endometrial cancer.
- The researcher was divided the study sample into five groups. Each group consisted from 17 women; the researcher was applied 4 sessions to all studied women. The duration of each session was 45-60 minutes.
- The different teaching method was used during discussion the session are lectures, video, group discussion, the instruction media was included the instructional guidelines were distributed to all recruited studied women from the first session for achieve study aim.
- At the beginning of the first session studied women was oriented with the instructional guidelines contents. Every session was starting with feedback about the previous session and the objectives of the new session. Simple Arabic language was used to suit women' level of understanding. At the end of each session, the researcher was gave five minutes was devoted to permit women to ask questions to clarify the session contents and to correct any misunderstanding. Each woman was informed about the time of the next sessions .The sessions were conducted in the following order:
 - *The first session* was included knowledge regarding endometrial cancer as following: (definition of endometrial cancer, risk factor and causes of endometrial cancer). At the end of this session the researcher instructed women for the time of the next visit.
 - *The second session:* started by a feedback about the previous session and introduction of the objectives of the new session then the researcher informed studied women with knowledge regarding signs and symptoms of endometrial cancer, diagnosis, investigation of endometrial cancer and complication of endometrial cancer. At the end of this session the researcher gave to the women the opportunity to ask questions and provided period of discussion and instructed for the time of the next visit.

- *The third session:* started by a feedback about the previous session and introduction of the objectives of the new session then the researcher provided women with knowledge regarding endometrial cancer as following: (prevention and management of endometrial cancer and nursing role of endometrial cancer, guideline regarding irregular diet and guideline regarding exercise).
- *The fourth session:* started by a feedback about the previous session and introduction of the objectives of the new session then the researcher provided women with knowledge regarding guidelines, regarding mental health, sexual health, radiation therapy and self-care for women with endometrial cancer. Finally, revision on all items of instructional guidelines.

Evaluation phase

This phase was utilized to evaluate the effect of instruction guidelines on knowledge and attitudes of perimenopausal women regarding endometrial cancer (posttest) by using the same format of tools which were used before the implementation (pretest).

Statistical design

After data collection each sheet was scored and data were organized and categorized. The statistical analysis of data was done by using the computer software of Microsoft Excel Program and Statistical Package for Social Science (SPSS) version 25. Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data, the arithmetic mean (\bar{X}) and standard deviation (SD) for quantitative data. Qualitative variables were compared using chi square test (χ^2). In addition, R- test were used to identify the correlation between the study variables.

Limitation of the research

Sometimes, schedule of sessions were postponed as many women were busy most of time due to increased workload and their limited number in department.

Results:

Table (1): shows that, less than half (47.1%) of the studied women were aged 45-50 years with mean age is 49.83 ± 5.32 years. Regarding educational level, near to two-thirds (64.7%) of them had diploma degree. Also, slightly less than three-quarters (73.0%) of them were married. Moreover, more than two-thirds (68.2%) of them had been living in rural areas. In

addition, more than half (56.5%) of them have not enough income.

Figure (1) Shows that, the minority (5.9%) of the studied women have good level of total knowledge about endometrial cancer before implementation of instructional guidelines compare to more than four fifth (82.4%) after implementation of instructional guidelines.

Figure (2) reveals that, less than one-quarter (21.2%) of the studied women have positive attitudes regarding endometrial cancer at before implementation of instructional guidelines compare to (91.8%) after implementation of instructional guidelines.

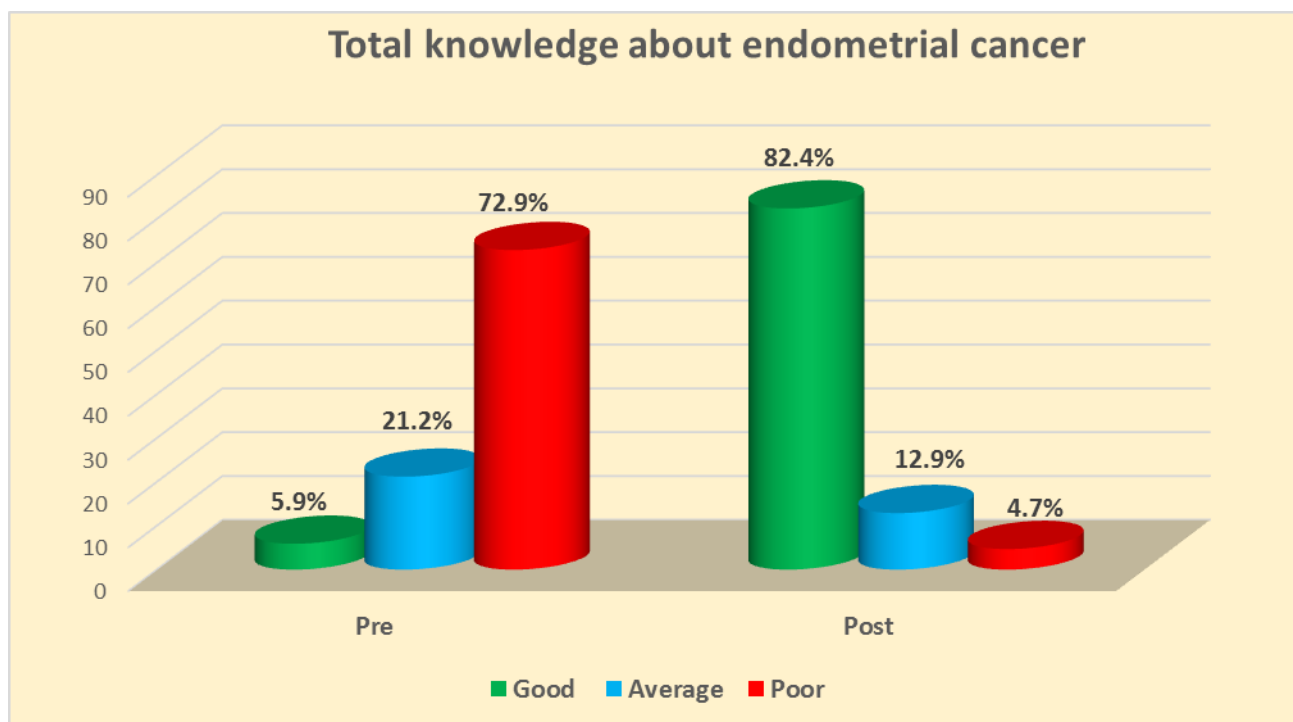
Table (2) shows that, there is statistically significant relation between total women's knowledge and their socio demographic characteristics as educational level and family income before implementation of instructional guidelines at ($P < 0.05$), while, there is no a statistically significant relation with their age, social status and place of residence before implementation of instructional guidelines at ($P > 0.05$). After implementation of instructional guidelines, the results reveal that, there is a highly statistically significant relation between total women's knowledge their educational level and family income at ($P \leq 0.001$). Also, there is statistically significant relation with their age after implementation of instructional guidelines at ($P < 0.05$), while, there is no a statistically significant relation with their social status and place of residence after implementation of instructional guidelines at ($P > 0.05$).

Table (3) shows that, there is statistically significant relation between total women's attitudes before implementation of instructional guidelines and their socio demographic characteristics as educational level and family income at ($P < 0.05$), while, there is no a statistically significant relation with their age, social status and residence before implementation of instructional guidelines at ($P > 0.05$). In addition, the results reveal that, there is a highly statistically significant relation between total women's attitudes after implementation of instructional guidelines and their educational level and family income at ($P \leq 0.001$). Also, after implementation of instructional guidelines there is statistically significant relation with their age at ($P < 0.05$), While, there is no a statistically significant relation with their social status and residence at ($P > 0.05$).

Table (4): clarifies that, there is a high statistically significant positive correlation between women's total knowledge and their attitudes regarding endometrial cancer at before and after implementation of instructional guidelines ($p \leq 0.001$).

Table (1) Frequency distribution of the studied women according to their general characteristics (n=85).

Items	No.	%
Age		
40-<45 years	15	17.6
45-<50 years	40	47.1
50-<55 years	21	24.7
55-59 years	9	10.6
Mean ± SD	49.83 ± 5.32	
Level of education		
Diploma degree	55	64.7
Upper Intermediate Diploma	18	21.2
Bachelor's degree	10	11.8
Postgraduate	2	2.3
Social status		
Single	8	9.4
Married	62	73.0
Divorced	8	9.4
Widow	7	8.2
Residence		
Rural	58	68.2
Urban	27	31.8
Family income		
Not enough	48	56.5
Enough	37	43.5

**Fig.(1):** Percentage distribution of total women's knowledge about endometrial cancer before and after implementation of instructional guidelines (n=85).

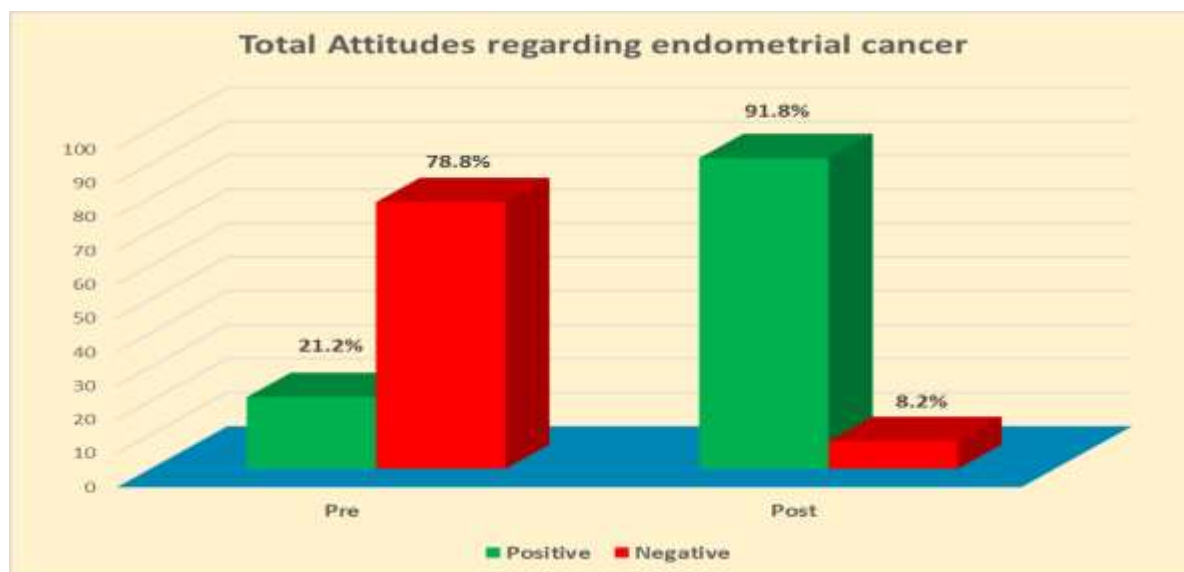


Fig. (2): Percentage distribution of total women's attitudes regarding endometrial cancer before and after implementation of instructional guidelines (n=85).

Table (2): Relationship between socio demographic characteristics of the studied women and their total level of knowledge regarding endometrial cancer before and after implementation of instructional guidelines (n=85).

General characteristics		Levels of total knowledge pre-implementation						X ²	P-Value	Levels of total knowledge post-implementation						X ²	P-Value
		Good (n=5)		Average (n=18)		Poor (n=62)				Good (n=70)		Average (n=11)		Poor (n=4)			
		No.	%	No.	%	No.	%			No.	%	No.	%	No.	%		
Age (years)	40-<45	1	20.0	4	22.2	10	16.1	2.377	0.131	15	21.4	0	0.0	0	0.0	10.25	0.018*
	45-<50	3	60.0	8	44.4	29	46.8			39	55.7	1	9.1	0	0.0		
	50-<55	1	20.0	3	16.7	17	27.4			16	22.9	4	36.4	1	25.0		
	55-59	0	0.0	3	16.7	6	9.7			0	0.0	6	54.5	3	75.0		
Educational level	Diploma degree	0	0.0	0	0.0	55	88.7	9.057	0.029*	46	65.7	5	45.5	4	100	17.51	0.000**
	Upper Intermediate Diploma	1	20.0	10	55.6	7	11.3			12	17.1	6	55.5	0	0.0		
	Bachelor's degree	2	40.0	8	44.4	0	0.0			10	14.3	0	0.0	0	0.0		
	Postgraduate	2	40.0	0	0.0	0	0.0			2	2.9	0	0.0	0	0.0		
Social status	Single	1	20.0	3	16.7	4	6.5	1.502	0.196	2	2.9	4	36.4	2	50.0	1.967	0.181
	Married	3	60.0	11	61.1	48	77.4			58	82.9	3	27.3	1	25.0		
	Divorced	0	0.0	2	11.1	6	9.7			5	7.1	2	18.2	1	25.0		
	Widow	1	20.0	2	11.1	4	6.5			5	7.1	2	18.2	0	0.0		
Residence	Rural	2	40.0	8	44.4	48	77.4	2.400	0.137	49	70.0	6	55.5	3	75.0	1.732	0.103
	Urban	3	60.0	10	55.6	14	22.6			21	30.0	5	45.5	1	25.0		
Family income	Enough	5	100.0	11	61.1	32	51.6	10.34	0.032*	36	51.4	8	72.7	0	0.0	14.57	0.000**
	Not enough	0	0.0	7	38.9	30	48.4			34	48.6	3	27.3	4	100		

X²: Chi Square Test. No significant at p >0.05. (*) Statistically significant at p <0.05. (**) Highly significant at p < 0.01.

Table (3): Relationship between socio demographic characteristics of the studied women and their level of total attitudes regarding endometrial cancer before and after implementation of instructional guidelines (n=85).

General characteristics		Levels of total attitudes pre-implementation				X ²	P-Value	Levels of total attitudes post-implementation				X ²	P-Value
		Positive (n=18)		Negative (n=67)				Positive (n=78)		Negative (n=7)			
		No	%	No	%			No	%	No	%		
Age (years)	40-<45	5	27.8	10	14.9	3.59 9	0.107	15	19.2	0	0.0	13.0 7	0.012*
	45-<50	6	33.3	34	50.8			40	51.3	0	0.0		
	50-<55	5	27.8	16	23.9			20	25.6	1	14.3		
	55-59	2	11.1	7	10.4			3	3.8	6	85.7		
Education level	Diploma degree	0	0.0	55	82.1	11.6 3	0.011 *	50	64.1	5	71.4	19.3 6	0.000* *
	Upper Intermediate	6	33.3	12	17.9			16	20.5	2	28.6		
	Bachelor's degree	10	55.6	0	0.0			10	12.8	0	0.0		
	Postgraduate	2	11.1	0	0.0			2	2.6	0	0.0		
	Single	4	22.2	4	6.0			1.09 3	0.214	7	9.0		
Married	7	38.9	55	82.1	60	76.9	2			28.6			
Divorced	5	27.8	3	4.5	6	7.7	2			28.6			
Widow	2	11.1	5	7.4	5	6.4	2			28.6			
residence	Rural	11	61.1	47	70.1	1.79 6	0.142	53	67.9	5	71.4	2.63 7	0.131
	Urban	7	38.9	20	29.9			25	32.1	2	28.6		
Family income	Enough	12	66.7	36	53.7	9.60 1	0.041 *	48	61.5	0	0.0	16.0 0	0.000* *
	Not enough	6	33.3	31	46.3			30	38.5	7	100.0		

X²: Chi Square Test. No significant at p > 0.05. (*) Statistically significant at p < 0.05. (**) Highly significant at p < 0.01.

Table (4) Correlation between total women' knowledge and their attitudes regarding endometrial cancer before and after implementation of instructional guidelines (n=85).

Scale	Total attitudes	
	Pre implementation	Post implementation
Total knowledge	r = 0.507	0.610
	p = 0.000**	0.000**
R= Correlation coefficients test.	p= p-value	**highly significant at p < 0.001.

Discussion

Endometrial cancer (EC) is the most frequent female reproductive tract cancer, as well as the fourth and sixth leading causes of cancer and cancer death among women in the world. It represents the sixth most commonly diagnosed cancer and the 14th leading cause of cancer death in women worldwide¹⁰

The research's hypotheses supported by the finding of the present study as well as the following parts:

Socio-demographic factors have an effective role on lifestyle of women. Regarding socio-demographic characteristics of the studied women, the results of the present study cleared that there was no statistically significant regarding (age, residence, educational level, social status and monthly income). This may be due to homogeneity of the study population .

Regarding socio demographic characteristics of studied women's, the results of the current study revealed that less than half of the studied women were in the age group of 45-50 years with a mean age of 49.83 ± 5.32 years. Meanwhile, that more than two-thirds of the studied women lived in rural areas and less than two-thirds of them had diploma degree. The results of the present study clarified that social status of less than three quarters of the studied women were married.

This result agreed with²⁶ who concluded that the mean age of perimenopausal women was 48.6 ± 3.9 years.

On the other hand, this result was in accordance with¹ who reported that the two groups had no significant differences in demographic characteristics such as age and education.

Concerning total knowledge score regarding endometrial cancer before and after implementation of instructional guidelines , the minority of the studied women have good level of total knowledge about endometrial cancer before implementation of instructional guidelines compare to more than four fifth after implementation of instructional guidelines. This may be due to clarity and consistency of the program application and suitable media was used.

This result was similar to¹⁷ who found that there was no significant difference between the two groups in items of perimenopause before the intervention ($p = 0.34$) and the score increased one month after intervention and these changes were statistically significant ($P < 0.001$).

Also²⁵ who revealed that there was a highly statistically significant difference was found between total knowledge mean score of elderly women in the study group in the pre, posttest ($P = 0.001$) whereas no statistically significant difference was found between total knowledge mean score of elderly women in the control group in the pre, posttest ($P = 0.134$) and these results completely agree with the findings of our study that found a highly statistically significant difference was found between total knowledge mean score of elderly women in the study

group in the pre, post, and follow up test ($P = 0.00$) whereas no statistically significant difference was found between total knowledge mean score of elderly women in the control group in the pre, post and follow up test ($P = 0.0845$). These results may be related to the effect of the educational program in changing knowledge of the studied women about endometrial cancer prevention.

As regard as total women's attitudes regarding endometrial cancer before and after implementation of instructional guidelines, the result of the present study showed less than one-quarter of the studied women have positive attitudes regarding endometrial cancer before implementation of instructional guidelines compare to the most of studied women after implementation of instructional guidelines. This result may be explained by that when people have a good knowledge about endometrial cancer importance, this can lead to more positive attitudes towards changing bad habits and having a positive view of life.

In agreement with¹⁸ who found that is improvement in total women's attitudes regarding endometrial cancer at post-test compared to pre-test phase with a highly statistically significant difference ($P \leq 0.001$). Also²⁷, who reported that the minority of the studied women have positive attitudes regarding endometrial cancer at pre implementation phase compare to the most at post implementation phase.

Regarding relations between the studied women' knowledge and general characteristics of the studied women, the finding of the current study shows that there is statistically significant relation between total women's knowledge before implementation of instructional guidelines and their general characteristics as educational level and family income at ($P < 0.05$), While, there is no a statistically significant relation with their age, social status and place of residence at ($P > 0.05$). In addition, the results reveal that there is a highly statistically significant relation between total women's knowledge and their educational level and family income after implementation of instructional guidelines at ($P \leq 0.001$). Also, there is statistically significant relation with their age at ($P < 0.05$), While, there is no a statistically significant relation with their social status and place of residence at ($P > 0.05$). This result may be due to that the good level of knowledge has positive effect on the level of knowledge.

This result agreed with⁴ who found that there is statistically significant relation between total women's knowledge at pre-implementation and their general characteristics as educational level and family income at ($P < 0.05$). Also, there is statistically significant relation with their age at ($P < 0.05$).

In contrast, this result didn't agree with⁷ who found that there was a highly statistically significant relation between total women's knowledge at pre-implementation and their general characteristics as educational level and family income at ($P < 0.05$), while, there is no a statistically significant relation with their age, social status and place of residence at ($P >$

0.05). Also¹³, who found that there a highly statistically significant relation between total women's knowledge at pre-test and their general characteristics.

Regarding relations between the studied women's attitudes and general characteristics of the studied women, the finding of the current study shows that there is statistically significant relation between total women's attitudes before implementation of instructional guidelines and their general characteristics as educational level and family income at ($P < 0.05$), while, there is no a statistically significant relation with their age, social status and residence at ($P > 0.05$). In addition, the results reveal that there is a highly statistically significant relation between total women's attitudes after implementation of instructional guidelines and their educational level and family income at ($P \leq 0.001$). Also, there is statistically significant relation with their age at ($P < 0.05$), while, there is no a statistically significant relation with their social status and residence at ($P > 0.05$).

This result agreed with⁶ who reported that is statistically significant relation between total women's attitudes and general characteristics at pre-implementation. Also this result was improvement statistically significant relation between total women's attitudes after implementation.

Also,¹⁹ found that there is statistically significant relation with their age at ($P < 0.05$), while, there is no a statistically significant relation with their social status and residence at ($P > 0.05$). In contrast, this result didn't agree with²¹ who reported that there no statistically significant relation between total women's attitudes at pre-test and their general characteristics.

As regards correlation between total scores of women' knowledge and attitudes regarding endometrial cancer before and after implementation of instructional guidelines, the finding of the present study clarified that there is a high statistically significant positive correlation between women's total knowledge and their attitudes regarding endometrial cancer before and after implementation of instructional guidelines ($p \leq 0.001$). This result was supported by⁵ who found that there was statistically significant correlation between total scores of women' knowledge and attitudes before and after the application of educational program ($p < 0.01$). Also,³ who found that there was highly statistically significant correlation between total women' attitudes and total women' knowledge.

In contrast, this result didn't agree with⁹ who found no statistically significant difference was found between elderly women in the study and control group regarding total belief mean score in the pre and posttest respectively ($P=.99$) and ($P=.64$) but a highly statistically significant difference found between elderly women in the study and control group.

Conclusion

Based on the results of the present study, it could be concluded that the instructional guidelines has a

positive effect on women's knowledge and attitudes regarding endometrial cancer, there was a highly statistically significant difference in relation to total women's knowledge about endometrial cancer before and after implementation of instructional guidelines. Also, there was a highly statistically significant difference in relation to women's attitudes about endometrial cancer before and after implementation of instructional guidelines. Moreover, there was a positive statistically significant correlation between total knowledge and total attitudes scores before and after implementation of instructional guidelines. Therefore, the study hypotheses were supported.

Recommendation

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

- Plane and implement educational programs to increase awareness of young age females towards risk factors, early signs and preventive measures of endometrial cancer.
- Conduct a nationwide screening program for women to detect any changes in the reproductive system to prevent endometrial cancer.

Further study needed to be performed:

- Follow a weight reduction program and maintain a healthy lifestyle strategy for all women all over the nation.

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