

Raising Awareness of Working Women in Mansoura University Towards Endometriosis: A Follow up Study

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Abstract

Background: Endometriosis not effortlessly analyzed than some other gynecologic illness, it is assessed that 176 million ladies endured worldwide and 2 to 17% of female amid their conceptional age had the disease influencing their personal satisfaction and life.

Aim: The study aim was to raise the awareness of Mansoura University working women about endometriosis.

Study Design: A quasi-experimental (before and after) design was exploited in this study.

Setting: The study was conducted in different faculties of Mansoura University.

Subjects: This study was conducted at the different Mansoura University faculties', from June to October 2015. The study subjects were included 160 working women in different faculties of Mansoura University. It distributed as the following: 20 women from theoretical, 80 women from practical faculties, and 60 women from medical faculties. A convenient sample technique was used.

Tools: Self-administered questionnaire consists of two sections. The initial section: includes questions related to socio-demographic characteristics of working women such as age, education level, marital status and residence. Second section: includes ten items related to the knowledge of working women about endometriosis.

Results: the age of study group was ranged between 23 to 55 years with average 37.31 ± 8.02 years and the majority of them were married (83.1%). There is a significant change in the knowledge level of the studied women about all items of educational sessions regarding endometriosis at post education and follow up time compared to their knowledge before the educational sessions.

Conclusions: The majority of the study group had poor knowledge level about endometriosis definition, appearance, causes, risk factors, diagnostic appraisal, treatment, as well as preventive measures. Constructing and implementing health educational attentiveness sessions about endometriosis indicated a major consequence in a notable rising of the participants' level of knowledge about disease.

Key Words: Endometriosis, Gynecologic, Awareness, Knowledge.

I. Introduction

Endometriosis is particularly basic among ladies in their age of 30-40 years. It think about as an interminable disease happens when the tissue like the endometrium layer of uterus is available outside the uterus, where it initiates a perpetual fiery response that may bring about scar tissue. It is firstly present on the pelvic peritoneum, ovaries, recto-vaginal septum, bladder, and bowel. (**American College of Obstetricians and Gynecologists, 2010**).

World Endometriosis Research Foundation (WERF), assess that 176 million ladies all around, and in North America 8.5 million ladies are influenced with endometriosis, in spite of the fact that the correct pervasiveness rate still is not known as of recently. Most instances of endometriosis are happens in ladies ages 25-35 years, however the experience of these ladies are deferral in analysis of seven years from first giving side effects, such a variety of ladies have manifestations amid their young years. (**World Endometriosis Research Foundation, 2015**)

As reported by **Hummelshoj et al., (2006)** that endometriosis is an exceptionally regular weakening disease influencing female amid their conceptional age. Around 25 to half of ladies are barren because of nearness of endometriosis. Later information show that the occurrence of endometriosis has not expanded in the most recent 30 years and stays at 2.37–2.49/1000/y, which likens to an inexact pervasiveness of 6–8%. Furthermore, (**Laufer, 2012, Farquhar, 2007**), stated that the predominance of teenagers' endometriosis has all the earmarks of being similar to grown-ups as 35–70% of cases giving unending pelvic suffering appeared to have pelvic endometriosis on laparoscopy, in spite of a few researchers consider it as a thought little of issue in pre or post-menarche young ladies.

The correct reason for endometriosis is still obscure. Notwithstanding, it is profoundly probability that particular qualities assume part in building up the sickness (**Painter et al., 2011**). In this way, women with family health history of endometriosis have a higher danger of creating endometriosis. As respect in epidemiological studies that components connected with endometriosis as biologic element, conceptional and

financial elements. The age, span of fruitlessness, BMI, dyspareunia, pelvic agony, and family history of endometriosis could be considered as prescient variables for seriousness of endometriosis, additionally increment the sum and term of menstrual flow, menstrual pattern(Guo et al., 2009 and Moini et al., 2013).

The symptoms of endometriosis incorporate agonizing periods, excruciating ovulation, dyspareunia, overwhelming dying, endless pelvic pain(CPP), weariness, and barrenness, and these effects can influence the general physical, mental, and social prosperity of ladies (Nnoaham et al., 2011; Culley et al., 2013).

There is no distinct cure for endometriosis, despite the fact that this illness can be dealt with adequately with medications, most medicines are not reasonable for long haul use because of reactions (Kennedy et al ., 2005 and Rogers et al. 2009). Surgery can be powerful to evacuate endometriosis injuries and scar tissue; however achievement rates are subject to the degree of infection, the nearness of appropriate authority and the specialist's aptitudes. While, experience of difficult indications and infertility from a few ladies, and others have no adverse effects by any means. (Meuleman,et al., 2009). The analysis of endometriosis is in some cases incomprehensible; be that as it may, the key guide for the doctor to presume this wellbeing issue by history taken and clinical examination. (Osayande Amimi, 2014).

Likewise, the treatment is offered for every one of women influencing by endometriosis, in view of their manifestations, age, and fertility condition. For a large portion of influenced ladies, sufficient treatment requires a mix of medicines given over their lifetime. The present medicines and treatment incorporate therapeutic, surgical, or a blend of these methodologies. (Bulletti , et al, 2010 and Muzii, 2012)

Endometriosis affect significantly social and sexual relationships, work and studys as adifferent aspect of women's lives, (De Graaff et al., 2013, and Simoens et al., 2012). Furthermore, chronic disease, like endometriosis, is likely to affect woman's partners to some degree. Therefore, there is a significant need to optimize the management of affected women with endometriosis, reduce personal and societal burden from disease by increasing the awareness and continuous education .

Significant of the study:

Misdiagnosed of influenced ladies might be expected to at first alluded to unseemly optional care, or the similitude of signs and manifestations with other ailment, most normally broad wellbeing practitioners(GHP) were accounted for that lacking and insufficient of learning, mindfulness, sensitivity and showing demeanors that propagate myths about endometriosis (Culley et al., 2013). In Dakahlia Governorate, Egypt the predominance of endometriosis in youths with serious dysmenorrhea was 12.3 % amid the time of January 2012 to October 2014. (Ragab, 2015). A considerable lot of physical and mental complexities connected with endometriosis and have negative effect on the women wellbeing status on the grounds that a number of and thusly personal satisfaction. This is on account of the data gave was not sufficient. More expansion, pelvic agony connected with endometriosis can influence different parts of a lady's life. The indications of endometriosis prompts exhaustion and failure to work regularly from everyday.(Zondervan,2012).

The coordination of expert and government funded instruction in created nations support to diminish the measure of wellbeing issue (Miller and Rollnick, 2009). It gives ladies more learning and empowering them to be certain in charge of early location and secure their own particular wellbeing (Price, and Knibbs, 2009). In this way, it is vital for the lady to know about the appearances, dangers, and preventive measures of these disease.

In Egypt as of not long ago, there is no distributed studies weight on bringing issues to light of the ladies about all part of endometriosis, for example, signs other than to dangers , intricacies and counteractive action. Subsequently, the motivation behind this study was to raise the familiarity with working women in Mansoura University about endometriosis. Thus the researchers are intrigued to lead the study to build worked women mindfulness.

II. Material And Methods

The study aim was to raise the awareness of Mansoura University working women about endometriosis.

2.1 Research hypothesis

Awareness of working women regarding endometriosis will increase after conducting an educational sessions.

2.2 Research design

A quasi-experimental design was used in conducting this current study.

2.3 setting

The study was conducted at the different Mansoura University faculties', from June to October 2015.

2.4 Subjects and sampling

The study subjects were included 160 working women in different faculties of Mansoura University. Distributed as the following: 20 women from theoretical, 80 women from practical faculties, and 60 women from medical faculties. A convenient sample technique was used.

Sample size:

To calculate sample size, a pilot study on 10 women was carried out, and it is found that only 10% has correct knowledge about endometriosis. Using Dssresearch.com sample size calculator (dssresearch.com, 2016), and assuming improving correct knowledge to be 20% at alpha error 5% (confidence 95.0%) and beta error 10% (Power of the study 90.0%); the calculated sample size is 147 women. Adding (10%) for better quality of data. So the sample size of the studied women will be 160 women.

2.5 Tool of data collection

The study tool was produced in Arabic language by the researchers in light of audit of writings. Utilizing organized Self-directed survey which contains from 2 sections: the initial section: Included certain inquiries regarding socio-demographic qualities of working ladies, for example, age, educational level, marital status and habitation.

The second section: Included 10 things about the working ladies learning' about endometriosis definition, high hazard ladies e.g., family wellbeing history, period of menarche, causes, manifestation, for example, (substantial dying, dysmenorrhea, dyspareunia, serious agony in bladder during urination and sever pain in anal area during defecation, barrenness, indicative components, treatment, adverse effects and preventive measures.

Scoring of the questions :

The questions were corrected, each correct answer was given a score =2 the wrong answer was given a score =1 and don't know the answer was given a score =0. (Scoring key for the knowledge regarding endometriosis:

Poor knowledge answer <50%, Score < 10
Fair knowledge answer 50%-<75%, Score 11-<15
Good knowledge answer 75%-<100%, Score 15-20

Validity of this tool was tested by five experts, three experts in maternity nursing, two expert in obstetric medicine and three experts in community health nursing.

Reliability of the tool was tested by using Cronbach's alpha which it was 0.775, it means good reliability of the tool and test retest was tested ($r= 0.604$).

2.6 Pilot study

A pilot study was conducted for 10 of the working women (about 10% of the sample size) in order to test the applicability and relevance of the study tools and to test the clarity of the designed questionnaire as well as to calculate the sample size. The necessary modifications were done and these women were excluded from the study sample.

Development of wellbeing educational training session: The instructive session about endometriosis was readied and prepared in light of the related literature review. Control point presentation, colored handout and video containing the data about the endometriosis was set up as indicated by the substance in basic Arabic language. The tool rework by 8 experts in the field, so the developed of content validity were recognized and as a result of expert's opinions and suggestions about the session content were adapted.

2.7 Ethical considerations

Written consent was obtained from the study participants. They were reassured about the confidentiality of the information. They were being informed about their rights to refuse participation or withdraw at any time of the study.

2.8 Field work

- An official consent was obtained from the administrator of the different faculties of Mansoura University.
- The study was accomplished from the beginning of June to October 2015 in diverse faculties among ladies working in Mansoura University.
- Researchers initiated their self and elucidated the study purpose before starting data collection.
- About 15 groups were used for intervention sessions in all involved faculties, each faculty group was divided into small group, and each small group of working women entailed from 5-10 participants and revenue one teaching session.
- Firstly a pre- test was conducted by distributing the structured questionnaire after sufficient clarification for the participants in each small group. Each faculty group took 20-30 minutes to complete the study tool, after that one teaching session 2hours, Containing interactive group discussion and using power point presentation, showing video, followed by break, and then closing by an overall summarization. Power point presentation and video are giving for the participants women to be used in a later time and to help in awarding other relative personnel. The content was included well formed information about the definition, signs and symptoms, causes, risk factors, prevention, treatment, adverse effects and preventive measures of endometriosis.

-By ending the provided educational session a prepared colored lecture (power point, Arabic handout of endometriosis (educational booklet) was given to the participants women, in addition, CD containing subject information and explanatory video about disease occurrence.

-The final test was done immediately after administration of the educational session, then after three months of administering the educational session, follow up was done by using the same pretest tool. The dropouts' amount was eleven working women.

2.9 Statistical analysis

Statistical Package for Social Sciences (SPSS) version 16.0 was used for the statistical analysis of the obtained data. Data were tabulated using descriptive statistics in the form of frequencies and percentages for qualitative variables and using means & standard deviations for quantitative variables. For comparison for qualitative variables were used qui square test while student t test, one way ANova (F) and paired t test were used for comparison of quantitative variables. Statistical significance was considered at $P \leq 0.05$.

III. Results

Table (1): Distribution of the participants according to their socio-demographic characteristics

Characteristics	Total n= (160)	
	No	%
Age	28 57 65 10	17.5 35.6 40.6 6.2
Mean \pm SD (23 – 55.0 years)	37.31	\pm 8.02
Marital status	Single Married Widow	8.8 83.1 8.1
Education	primary preparatory Secondary University diploma	11.2 9.4 41.2 33.8 4.4
Residence	Rural Urban	37.5 62.5

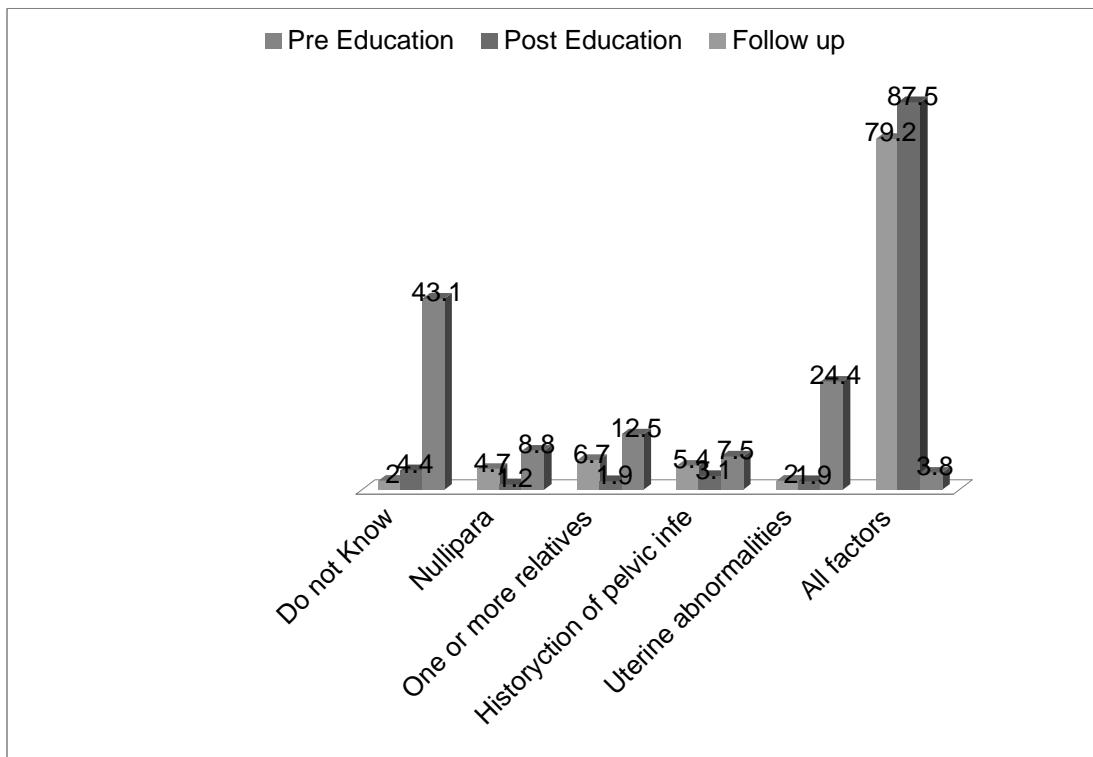
Among studied 160 women employed at Mansoura University Collages, the age of them ranged between 23 to 55 years with average 37.31 ± 8.02 years and most of them were at age groups 30 – 40 years (35.6%) and 40-50 years (40.6%). The majority of them were married (83.1%) and secondary (41.2%) and university (33.8%) educated. About two thirds (62.5%) were from urban areas and (37.5%) were from rural areas (table 1).

Table (2): Distribution of the participants regarding their knowledge about manifestation

Item	Before total n= (160)		After total n= (160)		Follow up total n= (149)	
	No	%	No	%	No	%
- I don't know	109	68.1	8	5.0	8	5.4
-Dysmenorrhea	11	6.9	1	0.6	1	0.7
-Dyspareunia	2	1.2	2	1.3	6	4.0
-pain with bowel movement or urination.	3	1.9	2	1.3	3	2.0
- Excessive bleeding (heavy menstruation).	19	11.9	2	1.3	4	2.7
- Infertility.	9	5.6	1	0.6	8	5.4
- Other symptoms experience of fatigue...	7	4.4	4	2.5	1	0.7
-All symptoms	0	0	140	87.5	118	79.2
Before VS After	$\chi^2 = 256.7$, P= 0.000					
Before VS follow up	$\chi^2 = 229.76$, P 0.000					
After VS follow up	$\chi^2 = 11.61$, P 0.114					

The knowledge of the studied women about manifestations of endometriosis showed a significant difference after educational session and at follow up time compared to their knowledge before it (table 2).

Figure (1): Knowledge about risk factors of endometriosis



Also, their knowledge about risk factors associated with occurrence of endometriosis showed a significant difference after educational session and at follow up time compared to their knowledge before it (figure 1).

Table (3): Average score of knowledge about endometriosis

Item	Before total Kn. Score	After total Kn. Score	Follow up total Kn. Score
Mean \pm SD	4.34 \pm 3.65	19.12 \pm 2.38	18.17 \pm 3.18
Before VS after	Paired t test = 52.442, P= 0.000		
Before VS follow up	Paired t test = 41.636, P= 0.000		
after VS follow up	Paired t test = 5.752, P = 0.000		

Paired t test showed a significant increase in the average score of knowledge at post educational session and at follow up time compared to their average knowledge score before educational session (table 3).

Figure (2): percentages of knowledge level before education, after education and at follow up

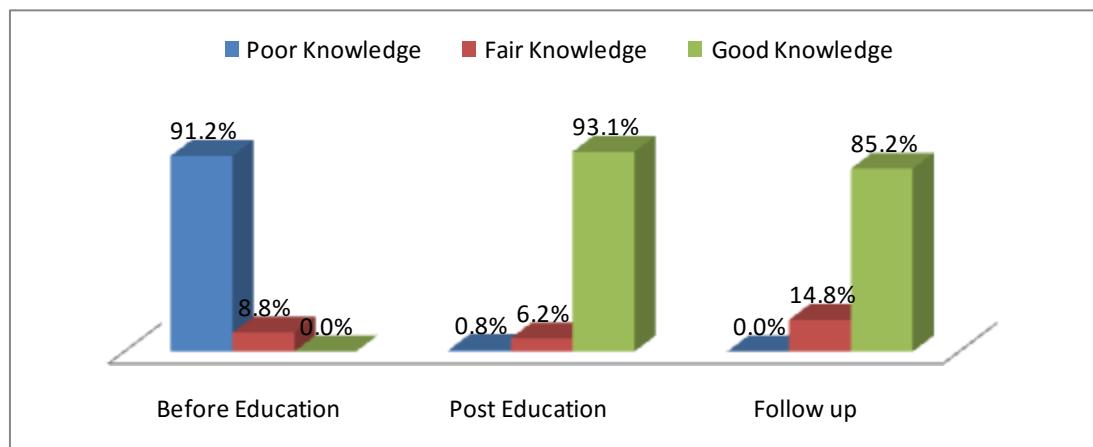


Figure (2) showed that the percentage of good knowledge was significantly higher after educational and at follow up time compared to before educational session.

Table (4): Distribution of the participants regarding their knowledge score about endometriosis

*P1 means comparison of Before VS After, **P2 means comparison of Before VS Follow up, *** P3

Item	Before total n= (160)			After total n= (160)			Follow up total n= (149)			Significant test
	Poor No. %	Fair No. %	Good No. %	Poor No. %	Fair No. %	Good No. %	Poor No. %	Fair No. %	Good No. %	
Definition	101 63.1	55 34.4	4 2.5	7 4.4	9 5.6	144 90.0	0 0	9 5.6	140 87.5	P1=0.000 * P2=0.000** P3=0.036***
Risk factors	69 43.1	85 53.1	6 3.8	7 4.4	13 8.1	140 87.5	3 1.9	30 18.8	116 72.5	P1=0.000 P2=0.000 P3=0.006
Manifestations	110 68.8	50 31.3	0 0	8 5.0	12 7.5	140 87.5	7 4.4	24 15.0	118 73.8	P1=0.000 P2=0.000 P3=0.062
Causes	80 50.0	79 49.4	1 0.6	6 3.8	8 5.0	146 91.3	1 0.6	30 18.8	118 73.8	P1=0.000 P2=0.000 P3=0.000
Common sites	73 45.6	87 54.4	0 0	9 5.6	15 9.4	136 85.0	0 0	17 10.6	132 82.5	P1=0.000 P2=0.000 P3=0.012
When go to doctor	91 56.9	69 43.1	0 0	9 5.6	16 10.0	135 84.4	1 0.6	18 11.3	130 81.3	P1=0.000 P2=0.000 P3=0.044
Diagnosis	92 57.5	68 42.5	0 0	16 10.0	13 8.1	131 81.9	1 0.6	30 18.8	118 73.8	P1=0.000 P2=0.000 P3=0.000
Treatment	133 83.1	21 13.1	6 3.8	25 15.6	19 11.9	116 72.5	2 1.3	26 16.3	121 75.6	P1=0.000 P2=0.000 P3=0.000
complications	113 70.6	41 25.6	6 3.8	3 1.9	10 6.3	147 91.9	1 0.6	20 12.5	128 80.0	P1=0.000 P2=0.000 P3=0.072
Prevention	128 80.0	29 18.1	3 1.9	3 1.9	16 10.0	141 88.1	12 7.5	16 10.0	121 75.6	P1=0.000 P2=0.000 P3=0.038

means comparison of After VS Follow up

Table (4) showed significant changes in the knowledge level of the studied women about all items of educational session regarding endometriosis at post education and follow up time compared to their knowledge before the educational session. Their knowledge level became good as regard definition of endometriosis, its risk factors and causes, manifestations, common sites, complications and when the women must go to the doctor and diagnosis, treatment, and prevention of its occurrence.

Table (5): Comparison between socio-demographic characteristics and knowledge score

Socio demographic characteristics	Before Mean ± SD	After Mean ± SD	Follow up Mean ± SD
Age			
20-	3.04 ± 3.95	17.86 ± 2.94	16.96 ± 3.66
30-	5.65 ± 3.70	19.39 ± 2.55	18.57 ± 2.91
40-	4.23 ± 3.20	19.31 ± 1.94	18.31 ± 3.22
50+	1.20 ± 1.93	20.00 ± 0.00	18.60 ± 2.37
Significant test	F= 6.771, P= 0.000	F= 3.640, P= 0.014	F= 1.689, P= 0.172
Marital status			
Single	1.71±2.46	17.86±3.42	17.57±3.99
Married	4.74±3.61	19.18±2.32	18.16±3.18
Widow	3.08±3.94	20.00±0.00	18.92±2.14
Significant test	F=5.464,P=0.005	F=3.230,P=0.000	F= 0.610, P= 0.545
Education			
primary	0.72±1.13	15.61±2.27	13.73±3.72
preparatory	0.94±1.43	18.80±2.14	17.23±3.81
Secondary	4.30±2.93	19.39±2.40	19.08±2.32
University	5.98±3.94	19.94±0.30	18.94±1.95
diploma	8.57±1.14	20.0±0.00	15.71±5.34
Significant test	F=18.27, P=0.000	F=16.69, P=0.000	F= 14.95, P= 0.000
Residence			
Rural	4.52±3.18	18.82±3.09	17.70±3.49
Urban	4.23±3.92	19.31±1.82	18.46±2.95
Significant test	t=0.479, P=0.632	t=1.27, P=0.205	t=1.430, P=0.155

Table (5) showed the relationship between socio demographic characteristics and average score of women's knowledge about endometriosis. The average score of knowledge was significantly differ at different

age groups before education session and after education, while it became not significantly differ at follow up time. Also, married and widow women had a significant higher average knowledge score before education session and after education and became not significantly differ at follow up time. The average score of women's knowledge about endometriosis was significantly increased with raising the educational level at all times. There was no significant difference between knowledge of the studied women about endometriosis in rural or urban areas.

IV. Discussion

Wellbeing educational training is the most key too much received wellbeing advancement methodologies utilized with youngsters, and is all around spoke to as viable. Avoidance is superior to anything cure this is the point at which the lady has mindfulness, for the most part all instructive intercession session focus on change false idea and increment consciousness of member with respect to wellbeing issue for early recognition, administration and aversion of further objection. The present study was aimed to raise awareness of working women in Mansoura University toward endometriosis; this aim was significantly achieved because there are statistically significantly improved post educational session and follow up knowledge level about endometriosis compared to pre education.

With respect to the participants women' condition of pre information, the greater part of participants had poor knowledge and recognition level about the treatment, prevention, disease consequences and about two third had no any information about definition of endometriosis, this is appears because the participants have no information and did not hear before about endometriosis, reduced role of mass media in handling this health problem. Also, Egyptian woman tolerate pain, and don't make annual follow up check, in addition diagnosis of endometriosis is difficult and take long time to diagnose because symptoms of this disease started during adolescence period with a similarity of the symptoms with other health problem.

Post intervention educational session the majority of the participants women had correct their knowledge. This is may be due to utilization of simple and clear language in the educational session, the appropriate teaching method and audiovisual aids. Also the natures of participant women ability to be ready to acquire knowledge help them in fulfilling the positive impact on health. This was in agreement with **Fourquet, et al.,(2010)** who carried out a study about patients' report on how endometriosis affects health on general, physical, mental and social wellbeing, sexually life, work, relationship, all daily life, and stated that there is a need for more forceful awareness session to help spread the message of painful menstruation is not normal.

In similar line bringing issues to light is the initial step to decrease the postponement in determination over all age groups. Instruction and education about menstrual wellbeing, what is typical and what is not is indispensable in more youthful age gatherings to break the present cycle of postponement in finding and stream on influences for the people to come (**Ballard, et al., 2006 and Dessole, et al., 2012**). Outlining wellbeing training programs and education about endometriosis and its related predisposing factor ought to be a need to guarantee early determination of the disease (**Mamdouh, et al., 2011**).

Additionally, there's improvement in follow up knowledge among study group, this may be due to presence of hard and soft copy about endometriosis, the participant woman aware about endometriosis, no long time for assessing their knowledge, also fear about future reproductive life because the majority of study sample were married.

The current study findings accounted that the participants had poor level of knowledge regarding symptoms, risk factors, diagnosis, treatment, and consequences of endometriosis. These results were in the matching with **Ballweg, (2004)** who declared that lack of attentiveness and understanding of the endometriosis have harmful impact on the course of disease so become get worse.

Subsequent to the educational session the majority of the participant's women had knowledgeable about endometriosis. This could be due to the clarity and consistency of the educational session and proper media used which increased the women awareness and recognition about the study subject. There was a extremely statistically significant improvement in the total score level of knowledge of the working women about endometriosis (definition, manifestation, risk and predisposing factor, diagnosis evaluation, adverse effect, treatment and prevention) after implementing the educational session and in follow up compared to before the educational session. These findings highlighted the willingness of the participant's women to achieve more information about the diseases. Findings of the current study showed that, the educational session was improving the participants' level of knowledge as revealed in both post and follow up scores. These results hold up the study hypothesis that health education session for working women will improve and get better their level of knowledge about it.

Limitation of the study:

There are few and restricted learn about consciousness and recognition of lady about endometriosis, the instructive sessions were accomplished for little groups(5-10) lady, on the grounds that the lady were possessed by their work, so it expended more exertion and time to lead and cover the aggregate all studied sample from the authors.

V. Conclusion

The majority of the participant's women had poor knowledge level about endometriosis definition, manifestation, causes, risk factors, diagnostic estimation, treatment, as well as preventive measures. Designing and implementing health education awareness sessions about the studied subject (endometriosis) indicated a significant effect in a remarkable rising of the participants' level of knowledge about it.

VI. Recommendation

- Awareness educational sessions about endometriosis are supposed to be implemented like a component of the services that provided to the working women in their workplace.
- Using health education campaign to elevate the awareness and recognition of all females and ladies about endometriosis in all residence area.

Conflict of Interest

The author announce no irreconcilable situation or no conflict notice

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