

# Nurses' Knowledge Regarding Endometritis During Reproductive Age in Baghdad Teaching Hospital

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## Abstract

**Background-** Endometritis is an inflammation of the endometrial lining of the uterus. In addition to the endometrium, inflammation may involve the myometrium and, occasionally the parametrium. Endometritis can be divided into pregnancy-related endometritis and endometritis unrelated to pregnancy. The route of delivery is the most significant risk factor for endometritis, with cesarean deliveries (especially for multifetal gestation) having a much higher likelihood of leading to endometritis and a 25-fold increase in infection-related mortality [1, 2].

**Objective-** This study aimed at assessing nurses' knowledge regarding endometritis during reproductive age at Baghdad Teaching Hospital. **Methodology-** A descriptive analytical study design was utilized, (30) nurse in the maternity ward at Baghdad teaching hospital were selected from three places (ward, delivery room and operative room) as the study population for the period from 8th February 2018 to 10th April 2018. A structured questionnaire was used as a tool for data collection. The data were collected through face to face interview technique and by using questionnaire format. Data were analyzed through the application of descriptive and inferential statistical analysis. **Results-** Out of 30 nurses enrolled in this study with a response rate of (100%). Results showed that more than half of nurses' ages were between (20-50) years, (66.7%) were secondary, (73.3%) were (1-5) years of experience, half and more than two third have information about endometritis during reproductive age, while the specific details (clinical information) about that disease between not sure and don't know. Results indicated that there is statistically significant association was found between nurses' knowledge and their socio-economic status specifically (age, educational levels and their experience years). **Conclusions-** The Overall Knowledge of nurses' regarding endometritis during reproductive age was good in some knowledge items and low in the others. Results concluded that nurses' had inadequate knowledge on specific aspects of nurses' knowledge toward endometritis. **Recommendations-** Encouraging nurses' education, that workers in the field must graduates from the institute at least. Courses for the development of nurse knowledge have to raise the scientific and practical level. Raise nurse's knowledge at delivery room and maternity wards. Further studies should be conducted on large number relative to the nurses' knowledge that worker in this field.

**Keywords:** Endometritis, Reproductive age, Pregnancy-related endometritis.

## 1. Introduction

Endometritis is inflammation of the endometrial lining of the uterus. In addition to the endometrium, inflammation may involve the myometrium and, occasionally the parametrium. Endometritis can be divided into pregnancy-related endometritis and endometritis unrelated to pregnancy. When the condition is unrelated to pregnancy, it is referred to as pelvic inflammatory disease (PID). Endometritis is often associated with inflammation of the fallopian tubes (salpingitis), ovaries (oophoritis), and pelvic peritoneum (pelvic peritonitis) [3]. Endometritis uterus is being still numbered among the most frequent pathologies of fertile woman [4]. There is increasing interest on the impact of endometrial inflammation on reproduction [5]. Nearly 90% of women treated with an approved regimen note improvement 48-72 hours. Delay in initiation of antibiotic therapy can result in systemic toxicity, endometritis is associated with increased maternal mortality due to septic shock [6]. Postpartum endometritis occurs following 1-3% of vaginal

births and up to 27% of caesarean sections. It is 5-20 times more common after caesarean section. There is evidence that prophylactic antibiotics reduce the risk of endometritis by 60-70% [7].

## 2. Objective

This study aimed at assessing nurses' knowledge regarding endometritis during reproductive age at Baghdad Teaching Hospital.

## 3. Methodology

A descriptive analytical study design was utilized, (30) nurse in the maternity ward at Baghdad teaching hospital were selected from three places (ward, delivery room and operative room) as the study population for the period from 8th February 2018 to 10th April 2018. A construction of the questionnaire was included of three parts. The questionnaire was designed and constructed by the investigator to measure the variable underlying the study. A questionnaire was consisted of two parts: the first Part: It included demographical information such as (nurses' Received: 29.01.22, Revised: 15.04.22, Accepted: 10.08.22

age, educational level, and their experience.) and the second part comprised of structured items concerning nurses' knowledge in the maternity ward and consist of (12) items, these items were developed according to (3) level like scale as (I know, not sure, I don't know) and the scale was scored as (1) for I know, (2) for not sure, (3) for

I don't know. Data were analyzed through the application of descriptive statistical data analysis approach (frequency and percentage), and inferential data analysis approach (Z- test).

Results and Discussion-

Table (1) Distribution of the Studied Sample by Their Demographic Data							
Variables						Variables	
Age Group						Age Group	
41-50		31-40		20-30			
%	F.	%	F.	%	F.		
6.66	2	30	9	63.33	19		
30(100%)						Total	
Level of education						Level of Education	
High Graduate		College Graduate		Instituted Graduate		Secondary Graduate	
%	F.	%	F.	%	F.	%	F.
3.3	1	3.3	1	26.7	8	66.7	20
30(100%)						Total	
Experience Years						Experience Years	
11-15		6-10		1-5			
%	F.	%	F.	%	F.		
6.67	2	20	6	73.3	22		
30(100%)						Total	

Table (2) Distribution of the Studied Sample According to Nurse's Knowledge about the Endometritis During Reproductive Age.								
Total	I don't know		Not Sure		I Know		Variables	No.
	%	F	%	F	%	F		
30 (100%)	0%	0	23.3%	7	76.7%	23	Endometritis affects the lining of the uterus.	1
30 (100%)	6.7%	2	33.3%	10	60%	18	Endometritis occurs in conjunction with uterine or endometrial inflammation and pelvic tissue.	2
30 (100%)	13.3%	4	20%	6	66.7%	20	Endometritis occurs after miscarriage and during postpartum.	3
30 (100%)	6.7%	2	3.3%	1	90%	27	One of the causes of endometritis is the curettage.	4
30 (100%)	36.7%	11	40%	12	23.3%	7	The most common cause is by infection such as chlamydia, gonorrhea or tuberculosis.	5
30 (100%)	20%	6	26.7%	8	53.3%	16	Endometritis occurs after prolonged labor.	6
30 (100%)	13.3%	4	30%	9	56.7%	17	Endometritis occurs after cesarean section.	7
30 (100%)	10%	3	6.7%	2	83.3%	25	The most common signs and symptoms are vaginal bleeding and elevated temperature in the lower abdomen or pelvic area.	8
							Endometrial diagnosis tests:	9
30 (100%)	23.3%	7	13.3%	4	63.3%	19	A sample of the cervix.	9-1
30 (100%)	30%	9	13.3%	4	56.7%	17	Biopsy of endometrium.	9-2
30 (100%)	26.7%	8	16.7%	5	56.7%	17	Laparoscopy.	9-3
30 (100%)	20%	6	13.3%	4	66.7%	20	A microscopic examination of vaginal secretions.	9-4
30 (100%)	40%	12	30%	0	30%	9	Sedimentation rate (ESR).	9-5
30 (100%)	6.7%	2	6.7%	2	86.7%	26	Use of antibiotics to treat and prevent complications of endometritis.	10
30 (100%)	0%	0	6.7%	2	93.3%	28	Some advanced cases of the disease need to enter the hospital and be under constant follow-up.	11
							Prevention of disease is by:	12
30 (100%)	3.3%	1	3.3%	1	93.3%	28	Early diagnosis	12-1
30 (100%)	13.3%	4	10%	3	76.7%	23	Using a safe marital relationship by condoms to reduce the risk of moving the microbes.	12-2

Table (3) Association Between the Study Sample's Knowledge and Their Age Group

P-Value ≤0.05	I Don't Know	Not Sure	I Know	I Don't Know	Not Sure	I Know	I Don't Know	Not Sure	I Know	Variables	No.	
	Age Group/ Frequency											Age Group
	41-50(F.)			31-40(F.)			20-30(F.)					
0.583 N. S	0	1	1	0	2	4	0	7	15	Endometritis affects the lining of the uterus.	1	
0.154 N. S	1	0	1	0	5	5	1	4	13	Endometritis occurs in conjunction with uterine or endometrial inflammation and pelvic tissue.	2	
0.263 N. S	0	0	4	2	1	3	0	8	12	Endometritis occurs after miscarriage and during postpartum.	3	
0.509 N. S	0	0	1	0	0	1	1	9	17	One of the causes of endometritis is the curettage.	4	
0.158 N. S	2	3	6	0	6	6	0	0	7	The most common cause is by infection such as chlamydia, gonorrhoea or tuberculosis.	5	
0.165 N. S	2	0	4	0	4	4	0	5	11	Endometritis occurs after prolonged labor.	6	
0.478 N. S	1	0	3	1	3	5	0	6	11	Endometritis occurs after cesarean section.	7	
0.751 N. S	0	2	1	0	0	2	2	7	16	The most common signs and symptoms are vaginal bleeding and elevated temperature in the lower abdomen or pelvic area.	8	
										Endometrial diagnosis tests:	9	
0.724 N. S	0	2	2	0	0	4	2	7	13	A sample of the cervix.	9-1	
0.471 N. S	3	4	4	0	0	4	2	6	11	Biopsy of endometrium.	9-2	
0.313 N. S	0	3	6	0	0	4	2	6	9	Laparoscopy.	9-3	
0.527 N. S	1	2	5	0	1	4	1	6	10	A microscopic examination of vaginal secretions.	9-4	
0.344 N. S	0	2	4	0	2	2	2	3	15	Sedimentation rate (ESR).	9-5	
0.049 S	1	4	7	0	4	5	1	1	7	Use of antibiotics to treat and prevent complications of endometritis.	10	
0.450 N. S	0	1	1	0	1	1	2	7	17	Some advanced cases of the disease need to enter the hospital and be under constant follow-up.	11	
										Prevention of disease is by:	12	
0.126 N. S	0	1	0	0	0	1	2	8	18	Early diagnosis	12-1	
0.416 N. S	1	1	2	0	1	2	1	7	15	Using a safe marital relationship by condoms to reduce the risk of moving the microbes.	12-2	
0.047 S	1	0	0	0	1	2	1	8	17	Use of disinfection during childbirth.	12-3	

**Table (4) Association between the Study Sample's Knowledge and Their Educational level**

P-Value ≤0.05	I Don't Know	Not Sure	I Know	I Don't Know	Not Sure	I Know	I Don't Know	Not Sure	I Know	Variables	No.			
	Educational Level/ Frequency													
	High Graduate			College Graduate			Instituted Graduate					Secondary Graduate		
0.310 N.S	0	1	0	0	0	1	0	2	6	0	4	16	Endometritis affects the lining of the uterus.	1
0.010 S	1	0	0	0	0	1	1	2	5	0	8	12	Endometritis occurs in conjunction with uterine or endometrial inflammation and pelvic tissue.	2
0.025 S	0	0	1	0	0	1	0	2	6	4	4	14	Endometritis occurs after miscarriage and during postpartum.	3
0.004 H.S	1	0	0	0	0	1	1	1	6	0	0	20	One of the causes of endometritis is the curettage.	4
0.245 N.S	1	0	0	0	0	1	1	5	2	0	7	4	The most common cause is by infection such as chlamydia, gonorrhoea or tuberculosis.	5
0.172 N.S	1	0	0	1	0	0	1	3	4	3	5	12	Endometritis occurs after prolonged labor.	6
0.012 S	1	0	0	1	1	0	1	4	3	1	5	14	Endometritis occurs after cesarean section.	7
0.021 S	0	1	0	0	0	1	1	0	7	2	1	17	The most common signs and symptoms are vaginal bleeding and elevated temperature in the lower abdomen or pelvic area.	8
													Endometrial diagnosis tests:	9
0.099 S	0	0	1	0	0	1	2	2	4	2	1	17	A sample of the cervix.	9-1
0.295 N.S	0	1	0	0	0	1	2	1	5	5	2	13	Biopsy of endometrium.	9-2
9 0.04 S	1	0	0	0	1	0	3	1	4	5	2	13	Laparoscopy.	9-3
0.049 S	0	1	0	0	1	0	3	1	4	5	2	13	A microscopic examination of vaginal secretions.	9-4
0.654 N.S	0	0	1	0	0	1	3	0	5	3	4	13	Sedimentation rate (ESR).	9-5
0.361 N.S	0	0	1	0	0	1	2	3	3	10	6	4	Use of antibiotics to treat and prevent complications of endometritis.	10
0.018 S	0	1	0	0	0	1	1	0	7	1	1	18	Some advanced cases of the disease need to enter the hospital and be under constant follow-up.	11
													Prevention of disease is by:	12
0.002 H.S	0	1	0	0	0	1	0	0	8	0	1	19	Early diagnosis	12-1
0.000 H.S	0	1	0	0	0	1	1	0	7	0	0	20	Using a safe marital relationship by condoms to reduce the risk of moving the microbes.	12-2
0.049 S	0	1	0	0	0	1	0	1	7	4	1	15	Use of disinfection during childbirth.	12-3

**Table (5) Association Between the Studied Sample's Knowledge and Their Experiences Years**

P-Value ≤0.05	I Don't Know	Not Sure	I Know	I Don't Know	Not Sure	I Know	I Don't Know	Not Sure	I Know	Variables	No.
	Experiences Years / Frequency										
	11-15(F.)			6-10(F.)			1-5(F.)				
0.351 N.S	0	0	2	0	1	5	0	6	16	Endometritis affects the lining of the uterus.	1
0.042 S	0	1	1	0	1	5	2	8	12	Endometritis occurs in conjunction with uterine or endometrial inflammation and pelvic tissue.	2
0.506 N.S	1	1	1	0	1	4	3	4	15	Endometritis occurs after miscarriage and during postpartum.	3
0.187 N.S	0	0	2	0	0	1	2	6	19	One of the causes of endometritis is the curettage.	4
0.028 S	2	3	6	0	2	10	0	1	6	The most common cause is by infection such as chlamydia, gonorrhoea or tuberculosis.	5
0.049 S	1	1	4	0	0	8	1	5	10	Endometritis occurs after prolonged labor.	6
0.026 S	0	4	0	1	2	6	1	4	12	Endometritis occurs after cesarean section.	7
0.003 S	19	2	0	0	0	2	1	4	20	The most common signs and symptoms are vaginal bleeding and elevated temperature in the lower abdomen or pelvic area.	8
										Endometrial diagnosis tests:	9
0.317 N. S	0	2	2	0	0	4	2	4	16	A sample of the cervix.	9-1
0.036S	1	2	5	0	0	4	1	4	13	Biopsy of endometrium.	9-2
0.480 N. S	1	1	7	0	0	4	1	5	11	Laparoscopy.	9-3
0.274 N. S	1	2	5	0	0	5	1	4	12	A microscopic examination of vaginal secretions.	9-4
0.519 N. S	0	1	5	0	0	4	2	5	13	Sedimentation rate (ESR).	9-5
0.125 N. S	2	3	7	0	0	9	0	3	6	Use of antibiotics to treat and prevent complications of endometritis.	10
0.358 N. S	0	1	1	0	0	2	2	5	19	Some advanced cases of the disease need to enter the hospital and be under constant follow-up.	11
										Prevention of disease is by:	12
0.004 H. S	0	1	0	0	0	1	2	5	21	Early diagnosis	12-1
0.048 S	1	2	1	0	0	3	1	4	18	Using a safe marital relationship by condoms to reduce the risk of moving the microbes.	12-2
0.001 H. S	1	0	0	0	0	3	1	6	19	Use of disinfection during childbirth.	12-3

Out of 30 nurse enrolled in this study with a response rate of (100%)., Results showed that more than half of nurses' ages were between (20-50) years, The educational level for most nurses' was 66.7% graduated from secondary nurses' level, seventy three percent of nurses' experience was within (1-5) years , that's mean when the nurses at middle age group and have 1-5 years working in the hospitals have work more and more active and experience in the work rather than another group about all the disease mostly maternity and children diseases. Most item of midwiferies' knowledge were (I know), that's mean the nurses' have good information regarding endometritis that admission in the wards. Table (3) revealed that significant association was found between nurses' knowledge and their age group about use of antibiotics to treat and prevent complications of endometritis, use of disinfection during childbirth, [Bach et al. \[8\]](#) found that the women with endometritis need for more of care given . Table (4) showed there are There are significant association between nurses' knowledge and their educational level about endometritis occurs in conjunction with uterine or endometrial inflammation and pelvic tissue, endometritis occurs after miscarriage and during postpartum, one of the causes of endometritis is the curettage, endometritis occurs after cesarean section, the most common signs and symptoms are vaginal bleeding and elevated temperature in the lower abdomen or pelvic area, a sample of the cervix, laparoscopy, a microscopic examination of vaginal secretions, some advanced cases of the disease need to enter the hospital and be under constant follow-up, early diagnosis, using a safe marital relationship by condoms to reduce the risk of moving the microbes, use of disinfection during childbirth, that mean the some nurses need for more information about endometritis .There are

significant association between nurses' knowledge and experiences years about endometritis occurs in conjunction with uterine or endometrial inflammation and pelvic tissue, the most common cause is by infection such as chlamydia, gonorrhoea or tuberculosis, endometritis occurs after prolonged labor, endometritis occurs after cesarean section, the most common signs and symptoms are vaginal bleeding and elevated temperature in the lower abdomen or pelvic area, biopsy of endometrium, early diagnosis, using a safe marital relationship by condoms to reduce the risk of moving the microbes, use of disinfection during childbirth this results agree with [Bach et al. \[8\]](#), [Haas et al. \[9\]](#) that found some nurses experienced that women with endometritis made excessive demands for care.

#### 4. Conclusions

- 1- The study concluded that Most nurses' ages range from (20-50) years old, majority of them secondary nurses 'graduates, while the highest percentage (73.3%) were having (1-5) years of experience.
- 2- Most of the studied sample have knowledge about the endometritis.
- 3- Significant association was found between nurses' knowledge and their age group about use of antibiotics to treat and prevent complications of endometritis, use of disinfection during childbirth.
- 4- Significant association was found between nurses' knowledge and their educational level about endometritis occurs in conjunction with uterine or endometrial inflammation and pelvic tissue, endometritis occurs after miscarriage and during postpartum.
5. Significant association was found between nurses' knowledge and experiences years about endometritis

occurs in conjunction with uterine or endometrial inflammation and pelvic tissue,

## 1. Recommendations

1. Researchers recommend that workers in the field of nurses' need to be graduates from the institute at least.
2. Courses for the development of nurse knowledge have to raise the scientific and practical level.
3. Raise nurse's knowledge who are working at delivery room and maternity wards.
4. Further studies need to be conducted on large number relative to the nurses' knowledge that worker in this field.

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