Assessment of Nurse's Knowledge, and Perception Regarding Emergency Contraception

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ABSTRACT

Background: Use of emergency contraceptive methods, provides a second chance to prevent unintended pregnancy and reduce maternal morbidity and mortality. **Aim:** The aim of the study was to assess nurses' knowledge and perception regarding emergency contraception. **Setting:** The study was conducted at obstetrics and gynecology departments at both benha university hospital and benha educational hospital. **Design:**A descriptive study design was utilized**. Sampling:**A convenient sample included 105 nurses. **Tools:** Structured self-administered questionnaire and modified likert scale. **Results:** The present study revealed that 78.5% of studied nurses had poor knowledge regarding ECPs, 73.1% had poor knowledge regarding emergency contraceptive IUD, moreover, 59.1% had poor knowledge regarding efficiency of emergency contraception, 72% of them did not receive any training courses in the last two years, and 100% didn't use EC. **Conclusion:** More than half of the studied nurses had poor knowledge regarding emergency contraceptive methods, nearly two-fifth of the studied nurses had negative attitude regarding emergency contraceptive methods. **Recommendations:** Implementation of training programs regarding emergency contraception and in-service training are recommended to improve nurses knowledge and perception regarding EC.

Key words: Emergency contraception, Nurses knowledge and perception, Unintended pregnancy

INTRODUCTION

Globally, unsafe termination of pregnancy (TOP) remains a major public health problem and World Health Organization (WHO) reports that 21.6 million unsafe abortions occurred in 2008. Annually, an estimated 8.5 million women suffer from complications of unsafe TOP, resulting in 47,000 maternal deaths (***Ziraba et al., 2015)*** Contraceptive choice and access to family planning are key to achieving the Millennium Development Goals of reduced child mortality and improved maternal health, and can contribute to reduced poverty ***(Lundgren et al.,2012).***Contraception can occur at a number of points in the basic reproductive biological process and through a number of contraceptive product options ***(Colquitt&Martin, 2015).***

Emergency contraception provides women with a last chance to prevent unintended pregnancy after sex***(Trussell et al.,2014).***Emergency contraception, or post-coital contraception, refers to any device or drug that is used as an emergency procedure to prevent pregnancy after unprotected sexual intercourse and before the potential time of implantation***(Alkhazrajy & Hadi, 2014).***

It is intended for emergency use following unprotected intercourse, contraceptive failure or misuse (such as forgotten pills or torn condoms), rape or coerced sex. EC is effective only in the first few days following intercourse before the ovum is released from the ovary and before the sperm fertilizes the ovum. Emergency contraceptive pills cannot interrupt an established pregnancy or harm a developing embryo (***WHO, 2012).***

There are two main types of EC methods; emergency contraceptive pills (or called morning-after pill) and Intra Uterine Devices (IUD) that are sometimes used for the purpose of EC. Emergency contraceptive pills are available as combined estrogen and progestin pills or progestin-only (levonorgestrel) pills, or antiprogestin (ulipristal acetate or mifepristone) pills***(Sweileh et al.,2015).*** EC is found to be effective if used as soon as possible after unprotected sexual intercourse, especially within 72 hours of unprotected sexual intercourse ***(Ahmed et al.,2012)***

There are several mechanisms on how emergency contraception prevents pregnancy. These mechanisms include interference with sperm function, inhibition of ovulation, altered tubal function, and altered endometrial receptivity. Emergency contraception does not have any post-fertilization effect and does not act as an abortifacient (***Gunardi&Fernando,2013).***

Nurses play an important role in counseling and should have regular in-service training on EC. They should be encouraged to include EC issues during family planning counseling in postnatal care, Their Supportive attitudes will help set the stage for follow-up counseling about emergency contraceptive use and prevention of STIs***(Alkhazrajy& Hadi,2014)*** They should routinely and more frequently recognize and inform women about the risk of an unintended pregnancy and EC options to avoid this and women should be provided the correct information about the mechanism of action of various EC options. Lack of knowledge on the mechanisms of action obstructs wide spread access and use globally***(Berger et al.,2015).***

Significance of the study

Globally, unsafe termination of pregnancy (TOP) remains a major public health problem and World Health Organization (WHO) reports that 21.6 million unsafe abortions occurred in 2008. Annually, an estimated 8.5 million women suffer from complications of unsafe TOP, resulting in 47,000 maternal deaths (***Ziraba, et al., 2015).***In Egypt, induced abortion, except to protect the health or life of the mother, is prohibited by law. Despite this legal restriction, clandestine abortions are fairly widely available in Egypt, to get rid from unwanted pregnancy***(Mahmoud & Byomy, 2013).***

AIM OF THE STUDY

To assess nurses Knowledge and perception regarding emergency contraception through:

- Assessing nurse's knowledge regarding emergency contraception.
- Assessing nurse's attitude regarding emergency contraception.

Research Questions

- What is the level of nurse's knowledge regarding emergency contraception?
- What is the level of nurse's attitude regarding emergency contraception?

SUBJECTS AND METHODS

Research design:

A descriptive design has been adopted to fulfill the aim of the present study.

Research Setting:

The study was conducted at obstetrics and gynecology department in both benha university hospital and benha educational hospital.

Sampling:

***Type:** convenient sample was selected.

***Sample size:**105 nurses were recruited and included all available nurses working at obstetrics and gynecology department in both benha university hospital (84 nurses) and benha educational hospital (21 nurses).

Tools of Data collection:

A structured interview questionnaire; included the following parts**:**

PART(1): included nurses 'general characteristics such as (Personal characteristics, Family history, Obstetric history, Family planning history.)

PART(2): Assessing knowledge of nurses regarding emergency contraceptive methods

Knowledge's scoring system:-

The answers of the questions were classified into 3 categories as following: Complete answer was scored (2), Incomplete answer was scored (1), And I don't know was scored (0).The score of total knowledge was classified as the following:1

Good: If ≥ 75% complete answers, ***Average***: If 60-<75% complete answers and,***Poor*** If < 60% complete answers).

Modified likert scale:-

An adopted scale was used to assess attitude of the studied nurses as regarding to emergency contraceptive methods. The scale consisted of 21 statements from three-point.

Attitude scoring system:

The score of attitude was classified as following: "Disagree" was scored (2), "Uncertain" was scored (1), and "Agree" was scored (0). The total score of attitude was classified as the following: positive attitude≥75%, Uncertain attitude60% -< 75%, and Negative attitude < 60%

Ethical Considerations:

- An official permission from the selected hospitals was obtained for the fulfillment of the study.
- The aim of the study was explained to all nurses before applying the tools to gain their confidence and trust.
- The researcher took oral consent from nurses to participate in the study and confidentiality was assured.
- The data was collected and treated confidentially.
- All nurses have the freedom to withdraw from participation in the study at any time.

Operational Design:

***Preparatory Phase:**

A review of current and past national and international relevant literature related to emergency contraception measures, is carried out by using local and international books, journals, periodicals and computer search was done to develop the study tools and contents.

***Pilot Study:**

A pilot study is conducted to test the clarity and applicability of study tools and the time needed to fill in the questionnaire. It was carried out on 10% of the total sample (10nurses).Accordingly, the necessary modifications were done in the form of adding and omitting some questions. Nurses included in the pilot study were excluded from the sample.

***Field work:**

The study was implemented for six months, from the beginning of March 2015 to the end of August 2015. The researcher began her study by visiting benha university hospital two daysper week, from 9 a.m. to 2 p.m. Sometimes the time was determined according to the participating nurses' suitable time.The researcher introduced herself and explained the purpose of the study to the nurses.

Then the questionnaire and attitude sheet were given to nurses at work to assess their knowledge and attitude. All these steps were repeated until all nurses in the obstetrics and gynecology department in benha university hospital included in the study. The data was collected from benha educational hospital using the same technique.

Limitations of the study:

Many nurses were busy most of the time with daily work during data collection. Two nurses refused to participate in the study, and Some nurses were absent extra days which made time of conducting study longer.

RESULTS

Table (1): Frequency distribution of the studied nurses regarding their personnel characteristics (n = 93).

Variable	No	%
Age (years)	43	46.2
<30	29	31.2
30-	21	22.6
40-50		
Mean ±SD 37.73 ± 9.10		
Marital status	91	97.8
Married	2	2.2
Widow		
Religious	91	97.8
Moslem	2	2.2
Christian		
Educational qualification	83	89.2
Secondary nursing education	8	8.6
Technical nursing education	2	2.2
Bachelor of nursing		
Years of experience	2	2.2
< 2	11	11.8
3-5	9	9.7
6-9	71	76.3
≥10		
Mean ±SD 19.07 ± 8.14		
Working setting	72	77.4
Benha university hospital	21	22.6
Benha educational hospital		
Training courses	67	72.0
No	26	28.0
Yes		

This table shows personnel characteristics of the studied nurses, The mean age was37.73 ± 9.10 years. The majority of them(97.8 %) were married; The majority (89.2%) had Secondary nursing education, The mean years of experience was 19.07±8.14years, More than three quarters of nurses (77.4%) were working in benha university hospital and (72%) of nurses hadn't taken any special scientific sessions through the last two years

Table (2): Frequency distribution of studied nurses regarding general knowledge about emergency contraception (n=93).

Variable	Don't know		Incomplete		Complete	
	No	%	No	%	No	%
Meaning of emergency contraception	15	16.1	57	61.3	21	22.6
Type of emergency contraception methods	22	23.7	32	34.4	39	41.9
Causes of using emergency contraception	29	31.2	43	46.2	21	22.6
Mechanism of action of emergency contraception	26	28.0	38	40.9	29	31.2
The maximum time use of emergency contraception.	28	30.1	45	48.4	20	21.5
Methods can be used immediately after the emergency contraception.	24	25.8	43	46.2	26	28.0

This table shows that more than three fifths of studied nurses (61.3%) demonstrated incomplete knowledge about mean of EC, While only (22.6%) demonstrated complete knowledge; More than two fifths knew types of EC, About half of them (48.4%) knew the maximum time use of EC, About one third of them (31.2%) didn't know indications for using emergency contraception methods.

Table (3): Frequency distribution of the studied nurses regarding their knowledge about efficiency of emergency contraception (n=93).

Variable	Don't know		Incomplete		Complete	
	No	%	No	%	No	%
Safety of emergency contraception	35	37.6	0	.0	58	62.4
Incidence of pregnancy with emergency contraception	27	29.0	0	.0	66	71.0
Does emergency contraception to be effective if used as a family planning method?	22	23.7	0	.0	71	76.3
Disadvantage of emergency contraception	11	11.8	64	68.8	18	19.4
Sites for getting emergency contraception	19	20.4	59	63.4	15	16.1

This table shows that more than three quarters of studied nurses (76.3%) added that EC couldn't be effective if used as a neutral family planning method, More than two thirds (68.8%) didn't know disadvantage of EC in addition (63.4%) didn't know all sites for getting EC, Moreover about two fifth of nurses (37.6%) didn't know safety of EC.

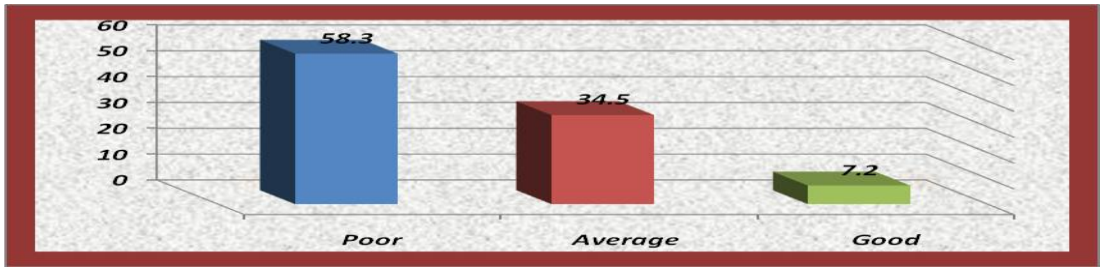

Figure (1): Percentage distribution of studied nurse regarding the total knowledge score about emergency contraception (n=93).

Table (4): Frequency distribution of the studied nurses total knowledge score in relation to their personnel characteristics (n=93) .

Variable	Poor N=57		Average N=30		Good N=6		X^2	P value
	No	%	No	%	No	%		
Age (years)								
<30	27	47.4%	13	43.3%	3	50.0%	3.23	>0.05
30-	20	35.1%	7	23.3%	2	33.3%		
40-50	10	17.5%	10	33.3%	1	16.7%		
Marital status	56	98.2%	29	96.7%	6	100.0%		
Married	1	1.8%	1	3.3%	0	.0%	.374	>0.05
Widow								
Educational qualification	49	86.0%	28	93.3%	6	100.0%		
Secondary nursing education	6	10.5%	2	6.7%	0	.0%	2.35	>0.05
Technical nursing education	2	3.5%	0	.0%	0	.0%		
Baccular of nursing								
Years of experience	1	1.8%	0	.0%	1	16.7%		
< 2	5	8.8%	4	13.3%	2	33.3%	10.64	>0.05
3-5	6	10.5%	3	10.0%	0	.0%		
6-9	45	78.9%	23	76.7%	3	50.0%		
≥10								
Working setting	39	68.4%	23	76.7%	4	66.7%	.706	>0.05
Benha university hospital	18	31.6%	7	23.3%	2	33.3%		
Benha educational hospital								
Training courses	43	75.4%	21	70.0%	3	50.0%		
No	14	24.6%	9	30.0%	3	50.0%	1.83	>0.05
Yes								

This table shows no statistically significant relation between total knowledge score regarding EC and personnel characteristics of the studied nurses (Age, Marital status, Educational level, years of experience and Working setting).

Table (5): Frequency distribution of studied nurses regarding their attitude about emergency contraceptive methods (n=93).

Variables	Agree		Uncertain		Disagree	
	No	%	No	%	No	%
Use of emergency contraception after unprotected sexual intercourse is unhelpful .	20	21.5	42	45.2	31	33.3
Emergency Contraceptive service is not available.	10	10.8	40	43.0	43	46.2
Emergency contraceptive isn't approved by the Ministry of Health .	10	10.8	39	41.9	44	47.3
Emergency contraception causes birth defects.	12	12.9	39	41.9	42	45.2
Emergency contraception causes ectopic pregnancy or abortion.	16	17.2	10	10.8	67	72.0
Use of emergency contraception can lead to infertility.	12	12.9	13	14.0	68	73.1
Use of emergency contraception is a good idea for all female.	31	33.3	44	47.3	18	19.4
Frequent use of emergency contraception is healthy.	9	9.7	49	52.7	35	37.6
Use of oral emergency contraception reduces the consistent use of condoms.	30	32.3	32	34.4	31	33.3
Emergency contraception pills provide protection against HIV (AIDS) and other sexually transmitted diseases.	27	29.0	33	35.5	33	35.5
Every woman who wishes to use emergency contraception pills should do pelvic examination before receiving these pills.	36	38.7	28	30.1	29	31.2
Emergency contraceptive pills cannot be provided through doctors, nurses, pharmacists trained properly.	17	18.3	37	39.8	39	41.9
Condoms and other barrier methods cannot be used immediately after use of emergency contraception.	10	10.8	47	50.5	36	38.7
All emergency contraception available without medical prescription or consult of a pharmacist.	22	23.7	16	17.2	55	59.1
Getting emergency contraception without a prescription minimize the use of regular contraceptive methods.	3	3.2	31	33.3	59	63.4
You are not on the degree of efficiency to teach the ladies the best use of emergency contraception.	3	3.2	24	25.8	66	71.0
You do not recommend to use emergency contraception pills if you have the practice of unsafe sex in unsafe period. "	10	10.8	40	43.0	43	46.2
You don't advice your friends to use emergency contraceptive pills.	16	17.2	38	40.9	39	41.9
Emergency contraceptive use encourages illegal sex.	18	19.4	38	40.9	37	39.8
Emergency contraception against morality and religion.	16	17.2	18	19.4	59	63.4
The use of emergency contraception creates a lack of trust between spouses.	16	17.2	15	16.1	62	66.7

This table shows that, About three quarters of studied nurses (73.1%) disagreed that "EC lead to infertility in women, Also, (72%) disagreed thatECcauses ectopic pregnancy or abortion; (71%) of nurses disagreed that "they aren't on the degree of efficiency to teach the ladies the best use of EC"; Two thirds of nurses (66.7%) disagreed that "the use of EC creates a lack of trust between spouses"; About two thirds of nurses (63.4%) disagreed that" Getting emergency contraception without a prescription minimize the use of normal contraceptive" or that "EC against morality and religion" ;While (38.7%) of them agreed that" Every woman who wishes to use emergency contraceptive pills do pelvic examination before receiving these pills"

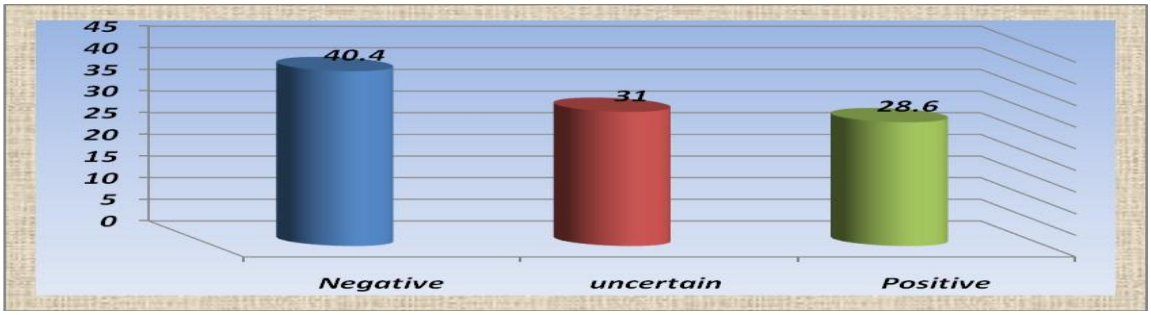

Figure (2): Percentage distribution of the studied nurses regarding the total attitude score about emergency contraception (n=93).

Table (6): Frequency distribution of studied nurses total attitude score in relation to their personnel characteristics (n=93) .

Variable	Negative N=37		Uncertain N=29		Positive N=27		X^2	P value
	No	%	No	%	No	%		
Age in years	14	37.8%	16	55.2%	13	48.1%		
<30	17	45.9%	6	20.7%	6	22.2%	6.68	>0.05
30-	6	16.2%	7	24.1%	8	29.6%		
40-50								
Marital status	35	94.6%	29	100.0%	27	100.0%		
Married	2	5.4%	0	.0%	0	.0%	3.09	>0.05
Widow								
Educational qualification	32	86.5%	24	82.8%	27	100.0%		
Secondary nursing education	3	8.1%	5	17.2%	0	.0%	8.39	<0.05*
Technical nursing education	2	5.4%	0	.0%	0	.0%		
Baccular of nursing								
Years of experience	2	5.4%	0	.0%	0	.0%		
< 2	5	13.5%	0	.0%	6	22.2%		
3-5	4	10.8%	3	10.3%	2	7.4%	10.28	<0.05*
6-9	26	70.3%	26	89.7%	19	70.4%		
≥10								
Working setting	27	73.0%	20	69.0%	19	70.4%		
Benha university hospital	10	27.0%	9	31.0%	8	29.6%	.133	>0.05
Benha educational hospital								
Training courses	35	94.6%	24	82.8%	8	29.6%		
No	2	5.4%	5	17.2%	19	70.4%	35.11	<0.001**
Yes								

*Significant change ** Highly Significant change

This table shows a significant relation between years of experiences, educational qualification and total attitude score (P<0.05), and no statistically significant relation between total attitude score regarding EC and personal characteristics of the studied nurses (Age, Marital status, and Working setting) (P>0.05); Also there is highly significant relation between total attitude score regarding EC and training courses (P<0.001).

Table (10): Correlation between studied nurses total knowledge and attitude score (n=93) .

Variables	Total perception score	
	R	P value
Total knowledge score	.139	.185

This table shows a positive statistical correlation between total knowledge and attitude scores regarding Emergency Contraception .

DISCUSSION:

As regards personal characteristics, the results of the current study revealed that, less than half of studied nurses were less than 30 years with a mean age of 37.73 ± 9.10,This result is nearly similar to ***Mohammed et al., (2015)*** who found that three fifth of studied nurses were between 20-35 years, Also ***Rahaman et al., (2010)*** found that thirty six percent of participants were between the age of 21 and 30 years.

On the other hand ***Charandabi et al., (2012)***found that more than half of nurses were in the age group of 30 to 39 years. Findings of the present study disagree with ***Yam et al., (2007)***who showed that about three-quarters of nurses were 50 or older. Results of the current study can negatively impact on the nursing information due to the young age of nurses Unlike other researches where older aged nurses had increasing experience.

Concerning marital status, the results of the present study revealed that majority of studied nurses were married. This result was in agreement with ***Mohammed et al., 2015&Charandabi et al., (2012)*** who reported that most of studied nurses were married. According to this results it was supposed to care about knowing everything about emergency contraception for themselves first and then to teach women about it.

Regarding educational level, this study found that three quarters of studied nurses had Secondary nursing education. This result was in agreement with ***Mohammed et al., (2015)*** who found that the majority of their study sample had technical diploma, This result was in disagreement with ***Charandabi et al., (2012)***who reported that about two thirds of nurses had bachelor's degree.

From the researcher point of view degree of qualification might affect the size of their information because nursing schools are considered less qualified than nursing colleges, and when scientific level increased, the bulk of knowledge must be increased.

Moreover; the mean years of experience of nurses in the present study were 19.07±8.14years, This finding was agreed with ***Charandabi et al., (2012)*** who illustrated that the mean years of experience of the studied nurses was 12.3 ± 6.0, On the other hand this study disagree with ***Mohammed et al., (2015)*** who reported that about two thirds of nurses were less than ten years of experience.

According to number of training courses, only one quarter of the studied sample had special scientific workshops through the last two years (Three fifths of them had family planning courses). The most important factors that affected nurses attendance of training courses or workshops were "No available training, Inappropriate time and high costs of training courses".

The results of the current study was agree with ***Hassan, (2009)***at Alexandria who

found that, more than half of the studied nurses didn't received any training courses about EC. This may be due to the fact that nurses are very busy in their work and were not interested in more knowledge about EC methods.

This findings disagreed with ***Thapa et al., (2013)*** who found that, about half of studied nurses had taken in-service training on emergency contraception, and about two thirds of them had taken in-service training on family planning counseling, and the majority of them mentioned that they had sufficient supply of EC devices in their family planning clinics. Lack of training courses regarding emergency contraception considered the main cause of lacking knowledge about it.

Review of literature revealed wide variation of EC practice among health care providers, In the present study all studied nurses didn't used EC before, This may be due to deficient knowledge about types of family planning methods, how to obtain or expensive cost of some methods.

On the other hand, ***Rahaman et al, (2010)***found that about one quarter of nursing staff used one or more methods of EC, Also, ***Shaaban et al., (2011)*** found that only on third of health care providers in Upper Egypt actually used EC.

Concerning studied nurses' general knowledge regarding emergency contraception, the present study found that less than one quarter of studied nurses knew complete meaning of emergency contraceptives, This finding disagreed with ***Mohammed et al., (2015)*** who found that more than half of nurses knew the correct definition of the emergency contraceptives in Mansoura City.

The finding of the current study is relatively different from ***Charandabi et al., (2012)*** who found that almost all of studied subjects were familiar with the emergency contraception. In addition ***Rahaman et al., (2010)***found that about three quarters of studied nurses knew complete definition of EC.

The low rate in the present study may be due to the young age of studied nurses, lack of training regarding emergency contraception. And also lack of learning with different available methods of family planning methods across the media.

The present study revealed that two fifths of studied nurses define types of EC as, two types of emergency contraceptive pills and emergency contraceptive intra-uterine device, this result was in consistence with ***Mohammed et al., (2015)*** who found that about half of studied nurses in Mansoura city knew correct types of EC.

This result is incongruent with ***Zeteroglu et al., (2004)*** who reported that about three quarters of health care provider knew at least one of the methods of EC. This results was in the same line with ***Hassan, (2009)*** who found that a sizeable proportion of the nurses knew the correct answer about types of EC.

The current study revealed that, About half of studied nurses mentioned one or more of the mentioned indication of EC. This finding agrees with ***Rahaman et al., (2010)*** who reported that the majority of studied subjects demonstrated that EC used after unprotected coitus followed by failure of barrier methods, and few of them approved it's use after sexual assault. This findings also matched with ***Charandabi et al., (2012),*** who reported that the majority of providers were aware of the common use of emergency methods, including condom breakage and unprotected sex, but their information on using emergency methods in the case of failure or forgetting the usage of other methods of contraception was poor.

This result is inconsistent with ***Mohammed et al., (2015)*** who demonstrated that about half of nurses knew the correct indications to use EC, this results were in the same line with ***Hassan, (2009)*** who demonstrated that more than two-fifth of the study subjects knew the correct answer about indication of (EC).

Mean while, the present study found that about one third of studied nurses demonstrated complete mechanism of action, About half of them demonstrated at least one of these mechanisms. While few nurses didn't know any of them. ***Khan et al., (2012)*** reported that almost half of providers believed that ECPs prevent implantation, while more than one tenth (12%) felt ECPs inhibit ovulation and large proportion didn't know how ECP prevent pregnancy. Also this findings are congruent with ***Nivedita & Shanthini, (2014)***who reported that the majority of studied subjects claimed that ECPs worked by preventing implantation. This finding disagree with ***Yam et al., (2007)*** who found that the majority of participants were unaware of method's mechanism of action.

The present study showed that about half of studied nurses didn't know all methods of contraception used immediately after EC. According to American college of obstetricians and gynecologists, women must use a barrier method (condoms, diaphragm, and spermicides) along with regular birth control method or don't have sexual intercourse. If ulipristal used, wait to use regular birth control method until 5 days after taking ulipristal. also must use a barrier method until next menstrual period. ***(ACOG, 2015)***

Concerning studied nurses' knowledge aboutthe two types of emergency contraception (ECPs and IUDs), the present study found that more than two fifths of studied nurses knew the efficacy of ECPs, While three quarters of them knew the efficacy of IUD as emergency contraceptive. These results were in congruent with ***Hassan, (2009)***who mentioned that a sizeable proportion of the nurses knew the correct answer about the types of EC.Also the reported findings is supported by ***Khan et al., (2012)***who revealed that the majority of providers believed ECP is effective in preventing pregnancy.

These results were incongruent with***Mohammed et al., (2015)*** who reported that all studied nurses didn't know effectiveness of emergency contraception. Also these results were different from ***Yam et al., (2007)***who demonstrate that the majority of participants were unaware of the method's effectiveness.

The present study showed that few nurses knew the types of emergency contraceptive pills. And that more than three fifth of them knew doses of ECPs and space time between it in hours. This is similar to study conducted in Nepal by***Thapa et al., (2013)*** who revealed that more than three fifths of nurses had knowledge on dosage and administration. This may be due to lack of correct knowledge of studied nurses about EC.

Regarding contraindications of emergency contraceptive methods, the studied nurses showed incomplete knowledge about contraindication of EC methods, This is due to poor knowledge about EC. This result is similar to ***Hassan, (2009)***who demonstrated that only one quarter of studied nurses knew contraindications of EC pills, and majority of them didn't know contraindications of IUD as emergency contraceptive method. Other studies conducted by ***Khan et al., (2012) &Yam et al., (2007)***revealed that the majority of participants were unaware of contraindications of ECPs.

Regarding side effects of emergency contraceptive pills, the present study found that one in ten of studied nurses knew all possible side effects. This may be due to

shortage of training courses and mass media don't cover this area of knowledge. This result was relatively similar to ***Hassan, (2009)*** who found that one-half of study subjects knew the correct side effects of EC pills. Also ***Thapa et al., (2013) &Khan et al., (2012)*** reported that three fifths of studied subjects knew correct side effects of EC pills. This findings slightly differ from ***Charandabi et al.,(2012)***who demonstrated that the majority of nurses knew the correct side effects of ECPs.

According to ***Who,(2008)***The incidence of pregnancy after an unprotected sex and use of combined ECPs is two percent and in case of using levonorgestrel is one percent. In the current study more than two thirds of studied nurses were aware of the rate of these risks. These results disagree with ***Charandabi et al., (2012)*** who reported that few nurses were aware of this issue.

In relation to safety of emergency contraception, the present study illustrated that three fifths of studied nurses reported that it's safe for use, This result is supported by ***Thapa et al., (2013)*** who reported that more than three quarters of nurses mentioned that ECPs is safe for its use. On the other hand, ***Hassan, (2009)*** mentioned that more than three fifths of nurses reported that EC are harmful.

The current study showed that, overall level of knowledge regarding emergency contraceptive methods was poor among studied nurses, where more than three fifths of studied nurses had poor Knowledge regarding emergency contraception, While few nurses (less than one tenth) had good knowledge about it. This result may be due to the issue of using contraceptive methods after sexual intercourse in our culture is deficient and not completely accepted.

This result is in agreement with ***Mohammed et al., (2015)***who mentioned that high percentage of maternity nurses had poor knowledge about ECs. This also agreed with ***Elgazzar, (2014)*** who revealed that most of the nurses had poor knowledge about ECs, such as (indications, contraindications, side effects…..ect),

This result is in the same line with ***Reed et al., (2012)*** who reported that overall knowledge regarding EC was poor among all nurses.

The foregoing findings of lack of accurate and detailed information about EC could be explained by the fact that almost all studied nurses in the present study hadn't attended any training courses related to emergency contraception, This may implicate the use of EC among women who need to use it because of misinformation from stuff nurses.

This finding disagrees with ***Thapa et al., (2013)*** who reported that the majority of nursing personnel had knowledge on emergency contraception as a whole. As well as***Nivedita & Shanthini, (2014)*** who mentioned that knowledge regarding EC was marginally good.

In this study, there was no statistically significant relation between total knowledge score regarding EC and personnel characteristics of the studied nurses (Age, Marital status, Educational level, years of experience and Working setting).(P> 0.05).

This result was in the same line with ***Thapa et al., (2013)***who reported no statistically significant difference of knowledge regarding EC and personnel characteristics especially (educational qualifications, in-service training, and duration of experience). Also***Nivedita & Shanthini, (2014)*** demonstrated no significant association between marital status and knowledge. The results of the current study suggest urgent focus on educational counseling programs to ensure safe motherhood.

Concerning the studied nurses attitude of emergency contraceptive methods, the present study revealed that more than two fifths of studied nurses had negative attitude since they agree on the statements of "Usage of EC after unprotected sexual intercourse is unhelpful", "Usage of EC is a good idea for all females", "Usage of oral emergency contraception reduces the consistent use of condoms", "ECPs provide protection against HIV (AIDS) and other sexually transmitted diseases", "Every women who wish to use ECPs should do pelvic examination before receiving these pills" ,"All EC available without medical prescription or consult of a pharmacist". This negative attitude is related to absence of refreshing programmes concerning emergency contraceptive methods, mechanism of action, and misconceptions related to their use.

This results agrees with ***Charandabi et al., (2012)*** who showed negative nurses attitude toward some aspects of EC methods, despite the positive attitude in other areas.

On the other hand**,** ***Nivedita & Shanthini, (2014)*** concluded that more than half of studied nurses had a positive attitude towards EC specially to the variables: "Ec is a safe for its users", "Willing to use EC", Will recommend EC to others", Using EC is better than abortion".

This result is supported by***Thapa et al., (2013)*** who mentioned that the majority of studied nurses had positive attitude towards EC. This finding is matched with ***Rahaman et al., (2010)***who reported that studied nurses mentioned that " They will encourage their friends and relatives to use EC" also they felt that " EC are beneficial".

In this study,there was a significant relation between years of experiences, educational qualification and total attitude score ($P<0.05$). This may be explained that the level of attitude increased as years of experiences increased and level of education become higher.Also there was high significant relation between total attitude score regarding EC and training courses.

This finding is inconsistent with ***Nivedita & Shanthini, (2014)***who indicated a significant association between the duration of experience and attitude score of staff nurse, while there was no significant association between marital status and attitude score.

The results of the current study revealed a positive statistical correlation between total knowledge and attitude scores regarding emergency contraception. This result was similar to ***Thapa et al., (2013)*** who reported a positive statistical correlation between total knowledge and attitude scores regarding emergency contraception. According to this result, the current study found that nurses should be educated by correct knowledge to develop positive attitude.

The above-mentioned findings answered the study questions and based on the results of the present study there is a need to improve nurses' knowledge and attitude regarding the emergency contraceptive methods, This would be achieved through organized training courses regarding emergency contraceptive methods for nurses and health care providers.

Government and ministry of health are responsible for increasing awareness regarding EC through awareness programs in the media, This will reflected on reducing unintended pregnancy or abortions, therefore saving lives of mothers and their babies.

CONCLUSION

Results of the present study concluded that; more than half of the studied nurses had poor knowledge regarding emergency contraception, nearly two-fifth had negative attitude regarding emergency contraception. Also, there was no statistical significant

relation between total knowledge score regarding EC and personnel characteristics of the studied nurses. Moreover the present study showed statistical significant relation between years of experiences, educational qualification and total attitude score ($P<0.05$); Also there is high significant relation between total attitude score regarding EC and training courses ($P<0.001$).The above-mentioned findings have mainly answered the study questions.

RECOMMENDATIONS:

- Educational programs regarding emergency contraception are recommended for all nurses working at obstetric and gynecological units.
- Workplace training regarding emergency contraception should be available for all nurses to improve their knowledge and perception.
- Further studies are needed to investigate the barriers that prevent obstetric nurses attending training program

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