

Effect of Emergency Contraception Guidelines Intervention on Women's Knowledge and Attitude

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Abstract:

Aim: The aim of the study was to evaluate the effect of emergency contraception guidelines on women's knowledge and attitude. **Design :** A quasi-experimental study was utilized **Setting:** the study conducted in Obstetrics and Gynecological Out Patient Clinic at Benha University Hospital . **Sampling:** A convenient sample including all women admitted to Out Patient Clinic for a period of six months were collected after approving to participate in the study and utilizing emergency contraception guidelines intervention. **Tools:** Two tools were used :1- A structure interviewing questionnaire included a) Socio demographic data of studied women. b) women's knowledge about emergency contraception. II- Likert scale tool to assess women's attitude toward emergency contraception . **Results:** There is a poor knowledge about emergency contraceptives among studied women , 55.0% do not know emergency contraceptives. also more than one third 38.5% had unwanted pregnancies prior to the time of the study. In addition , 55.0% had negative attitude pre intervention toward emergency contraceptives, There was highly significant improvement in women' knowledge score and significant positive attitude post intervention. **Conclusion:** There was a highly significant improvement in women' knowledge, and attitude after application of guidelines intervention about emergency contraception. This supported the main hypotheses of the study. **Recommendations:** The study recommended provision of the guidelines about emergency contraception in different hospitals and maternal child centers to improve women's knowledge and attitude.

Keywords: Attitude , Knowledge, Emergency Contraception, Guidelines and Intervention.

1- INTRODUCTION

Emergency contraception (EC) is defined as utilization of a method for contraception after unprotected intercourse to prevent unintended pregnancy. All over the world, more than 25% of all pregnancies are unintended. Annually, 40-60 million women seek evacuation of an undesirable pregnancy under unsafe conditions of which 95% occurs in the developing world. Recent studies demonstrated that (13%) of pregnancy-related deaths is to be due to unsafe abortions. Poor quality maternal care also affects the health of the newborn. In Egypt, each year, 216,000 women are admitted to hospital with complications of abortion, despite abortion being legal. Emergency contraception plays a vital role in reducing maternal mortality substantially and improves maternal health by avoiding unwanted pregnancy and unsafe abortion (*Thapa, 2013; Shaaban, et al., 2011*).

Emergency contraception is successful if taken just in the initial few days after intercourse before the ovum is discharged from the ovary and before the sperm fertilizes the ovum. Emergency contraceptive pills cannot interrupt or damage a developing fetus (*World Health Organization, 2012*). Emergency contraception is not prescribed as a normal conception prevention technique. Rather, it is utilized for emergency as it were. if a couple is sex and the condom breaks or slips off, if a diaphragm or cervical cap slips strange, or if a young lady neglected to take conception prevention pills for 2 days in succession, a young woman might need to consider utilizing EC(*Gavin, 2013*).

Emergency contraception methods are classified into emergency preventative pills (ECPs) taken as one dosage of levonorgestrel 1.5 mg, taken for five days (120 hours) of unprotected intercourse and copper-bearing Intra Uterine Devices (IUDs) embedded inside five days of unprotected intercourse, a copper-bearing IUD is the best type of emergency contraception accessible. EC has been accessible and enrolled for quite a while in Egypt and some other Center Eastern nations, for example, Algeria, Lebanon, Libya, Mauritania, Morocco, Tunisia, and Yemen (*Foster&Wyn,2012*).

Side effects of emergency preventative pills are same as conception prevention pills. Including nausea, abdominal ache, weakness, headache, and menstrual changes. Breast tenderness, fluid retention, and dizziness may likewise happen. A large portion of symptoms might be less extreme with progestin-just or intrauterine types of EC. Serious dangers incorporate heart

assault, blood clumps, and strokes. emergency prophylactic pills do not keep on protecting against pregnancy during the rest of the cycle. EC may not counteract tubal pregnancy. Also ,side effects of IUDs utilized for EC are the same as birth control IUDs. On the other hand EC is not secure against sexually transmitted diseases (*Samra et al., 2014*).

The most recent Egyptian Demographic Health Survey (EDHS) has demonstrated a decrease of total fertility rate (TFR) in Egypt from 5.3 births per woman at the time of the 1980 Egyptian Fertility Survey (EFS) to 3 births per woman at the time of the 2008 EDHS. Additionally ,it demonstrated that present utilization of any contraception technique was 60% and that 25% of women end the contraception strategy inside one year of utilization due to different reasons including contraceptive failure, dissatisfaction with the method, and wellbeing concerns. Clearly, EC can act as a move down method for women ending a contraceptive technique because of any of these reasons(*Ibrahim, et al., 2013*).

Moreover, in about half of all unwanted pregnancies, conception happens because of deficient guidance to utilize contraception goodly, including the users' inability to address their feelings, poor attitudes towards contraceptives, and absence of motivations. Unplanned pregnancy is a reason for intended abortion, low birth weight (LBW), delay in pregnancy care, increased mother and child mental and physical diseases (*Langille, 2012*).

Emergency contraception in the previous two decades had been proven to be effective and well tolerated. Nursing role including advising , counseling and prescription of EC in practice guidelines in the developed countries for its potential to reduce the number of unintended pregnancies and abortions(*El-Sabaa, et al., 2013*). An essential component of programs providing EC is education , training and advising women about essential choices before requiring it. Since, the time span for intercession is short. Efficacy decreases with every day or even hour of postponement. Women should be aware that EC is an alternative and should start as soon as possible after unprotected or ingoodly protected intercourse (*Dinku., 2007*).

Significance of the study

Preventing unintended pregnancy is a personal goal for most couples. Diminishing the national level of unintended pregnancy is one of the most important reproductive health goals identified by most nations especially The United States department of health and human services (*Finer & Zolna, 2011*). Many pregnancies are unplanned and unwanted in spite of the availability of highly effective methods of contraception, These pregnancies convey higher danger of morbidity and mortality, often due to unsafe abortion , most of these unwanted pregnancies can be avoided by utilization of EC; health education and counselling about EC are the responsibilities of health team mainly nurses (*Sindawe & Nzama, 2013*).

Women utilizing contraception can still have an unintended pregnancy because of contraceptive failure which may be happen for two reasons: inaccurate utilization of a method or an issue with the technique itself. Contraceptive failure seems to be a major issue in Egypt. 7 % of all pregnancies and 29 % of unintended pregnancies are due to contraceptive failure. The rates are higher for Jordan, where 14 % of all pregnancies and 39 % of unintended pregnancies result from contraceptive failure. (*Roudi & Abdul Monem, 2010*) EC has been called “the best-kept secret” in reproductive health because, despite its unique potential for helping women prevent pregnancies and satisfy their reproductive intentions, rates of use and of counseling about the method are quite low (*Palermo et al., 2014*).

II. Aim of the study

The aim of this study was to evaluate the effect of emergency contraception guidelines intervention on women’s knowledge and attitude . This aim was attained through:

- 1- Assessing women’s knowledge about emergency contraception.
- 2- Assessing women’s attitude toward emergency contraception.
- 3- Designing and implement guidelines intervention about emergency contraception.
- 4- Evaluating the effect of guidelines intervention on women’s knowledge and attitude towards emergency contraception.

Hypotheses:

H1. Women who received guidelines intervention about emergency contraception will exhibit higher scores in knowledge level than those who do not received these guidelines .

H2. Women who received guidelines intervention about emergency contraception will exhibit higher scores in their attitude than those who do not received these guidelines .

III. Subjects & Methods

Study design: Quasi-experimental study.

Study setting: the study was conducted in Obstetrics and Gynecology Out Patient Clinic at Benha University Hospital.

Sampling:

- **Sample type:** A convenient sample.
- **Sample size:** All women admitted to Out Patient Clinic for a period of six months were included after approved to participate in the study to utilize emergency contraception guidelines intervention.
- **Sample technique :** The researchers attended the Clinic three days per week for six months and daily collect all women approved to participate in the study in waiting room of clinic. The researchers introduced themselves to the selected women , explained the purpose and nature of the study.

Tools of data collection:

The following tools were designed and used by the researchers after reviewing a related literature:

1- A Structure interviewing questionnaire: It divided into three parts :

- a- Socio demographic data : Such as (age , level of education, residence, occupation , previous program related emergency contraception and source of information).

- b-** Obstetric history such as (parity, number of abortion, mode of delivery, history of family planning and previous un wanted pregnancies).
- c-** Assessment of women's knowledge about emergency contraception (EC) such as meaning , indication, contraindication, methods , timing ,types, interval between doses , side effects and efficiency of EC.

Scoring system:

The knowledge level were weighted according to items included in each question, The answers of the questions were classified into three categories. The answer would have score (2) for good knowledge, score (1) for average knowledge and the answer would have score (0) if it was do not know.

The score of total knowledge was classified as the following

- Good $\geq 75\%$
- average 60- $<75\%$
- poor $<60\%$

Tool Validity and Reliability:

The developed tool was reviewed for appropriateness of items and measuring the concepts through five an expert jury. panel in the field of maternity nursing and obstetric medicine especially to assure content validity. The questionnaires were modified according to the panel judgment on clarity of sentences and appropriateness of content (The reliability was done by Cronbach's Alpha coefficient test equal 0.87).

II-Likert scale tool: The researchers assessed attitude of the studied women toward emergency contraception using likert scale tool which adopted from (*Thapa,2013*). The scale consisted of sixteen statements from three –points ;disagree, uncertain & agree (likert scale type) about several issues.

Scoring system

Each statement scored as following (2)if response was disagree, (1) if it was uncertain and(0) if it was agree. The total score of attitude was considered as following

- Positive attitude $\geq 75\%$
- Uncertain attitude 60%- $<75\%$

- Negative attitude <60%

Tools Validity and Reliability :

Tools of the study was given to 3 experts in the field of maternity nursing and obstetric medicine to test the content validity of the tool and clarifies the sentences as well as , appropriateness of content . After the questionnaire was collected ,test-retest reliability was applied by the researchers . It was done through the administration of the same tools to the same participants on two or more occasions .Scores from repeated testing were compared.

Ethical considerations:

Ethical aspects should be considered before starting the study including that oral consent should be obtained from participants, maintain confidentiality, self-esteem, and dignity of subject, reassured that the study guidelines was harmless and each subject was free to withdraw from the study at any time.

Approval:

A written official approval to conduct this research was obtained from the director of Benha University hospital and head of Obstetrics and Gynecological Department in order to obtain their agreement to conduct the study after explaining its purpose

Operational Design:

A- ***Pilot study:***A Pilot study was conducted for three weeks to test the clarity, validity & reliability of tools used . Subjects included in the pilot study were included in the study sample due to no modification needed in tools after pilot study implementation.

B- ***Field work:*** The study was conducted in a period ranging from the beginning of January 2015 to the end of July 2015.

1. Assessment phase:

Tools were used to get a base-line assessment for women's needs prior to development of the guidelines content and also used post implementation in order to compare between the results (pre and post) test to determine the level of improvement.

2. Planning phase:

The content of the emergency contraception guidelines intervention was designed to meet the following objectives;

General objective: The general objective was to improve women's knowledge and changing their attitude toward positive one.

Specific objectives: At the end of the guidelines intervention session each woman included in the study should be able to :

1. Define emergency contraception.
2. List indications and contraindications of emergency contraception methods.
3. Determine time for starting emergency contraceptions pills or IUD after sex.
4. Explain emergency contraception safety.
5. Explain intervention applied after emergency contraception.
6. List types of emergency contraception.
7. Differentiate between side effects of each methods of emergency contraception.
8. Explain using emergency contraception during breast feeding.
9. Determine efficiency of each method of emergency contraception.

3. Implementation phase:

Implementation was carried out in Obstetrics and Gynecology Out Patient Clinic at Benha University Hospital. The researchers attended the clinic three days per week for six months and collected daily all women approved to participate in the study in waiting room of Clinic. **Firstly** The researchers introduced themselves to the studied women , explained the purpose and nature of the study and obtained consent from the women to be involved in the study. Pre test was done by distribution of previously mentioned tools, the time taken for pre test was 30 min. **Secondly** the researchers implemented emergency contraception guidelines intervention session, the duration of this session was 60-90 min. At the beginning of this session an orientation to the significance of the study, general and specific objectives were explained .Arabic languish was used to suit all women level

of understanding. An instructional media was used such as booklet, colored posters and real objects as emergency contraceptive pills and copper bearing intra uterine devices. Most of women were cooperative with the researchers and interested by the topic.

4. Evaluation phase:

After completion of previous phase the same tools were filled again as post test to evaluate the effectiveness of guidelines intervention on women's knowledge and attitude.

Statistical analysis:

Data were cleaned, edited, coded and entered into SPSS windows version 20 software, descriptive statistics were applied e.g., frequencies, percentage, mean and standard deviation. Chi square tests and pearson correlation coefficient were used to estimate the statistical significant differences. A significant *P*-value was considered when *P*-value was less than 0.05 and it was considered highly significant when *P*-value was less than or equal to 0.01.

IV. Results

Table 1 :Shows that 34.5% of women age <25years, 57.0% live in urban residence, 75% were range between secondary and university graduates, Concerning women occupation, 55.5% were employee and 44.5% were housewives.

Table 2: Shows that 52.5% of women were para one, 61% were delivered by cesarean section (C.S). concerning family planning history 82.0% were using it and 38.5% had unwanted pregnancies prior to the time of the study.

Table 3:Reveals that pre intervention 55.0% of women do not know meaning of EC,70.0% of studied women had poor knowledge about indication of EC,67.5% about types of EC while 82.5, 85.0% of women had poor knowledge about timing started EC after sex whether pills or IUD and 92.5% don't know interval between doses. This table shows also significant improvement in women's level of knowledge post intervention.

Table 4:Indicates that 83.0, 82.0% of studied women unknown efficiency of EC whether pills or IUD pre intervention,95.0%do not know EC safety and there is also significant improvement in women's level of knowledge post intervention.

Table 5: Shows that, 87.5% of studied women had incorrect answer about take the dose again if vomiting within one hour of the first dose EC pre intervention, 85% had incorrect answer about EC cause abortion or not with the significant difference post intervention.

Table 6: Presents that 55.0% of the studied women had negative attitude pre intervention about availability of EC services, 65.0% also negative attitude pre intervention about accesses to EC without a prescription reduce the use of regular contraceptive. Concerning morality and religion about EC the present study revealed that 52.0% negative attitude pre intervention with the significant difference post intervention.

Table 7: Shows correlations between women's knowledge and attitude about emergency contraception, there were highly statistical significant difference post intervention.

Table 8: Shows that there were significant difference between general characteristics of women and total women knowledge score about emergency contraception p value ≤ 0.001 .

Table 9: Reveals that there were significant difference between general characteristics of women and total women attitude score about emergency contraception p value ≤ 0.001 .

Figure 1: Shows that 40.8% source of knowledge was from health Clinics, while 10.4% from mass media.

Figure 2: Reveals that there was significant improvement regarding total knowledge score post intervention.

Figure 3: Illustrates that there was clear significant positive attitude post intervention.

Table 1: General characteristics of studied sample (n=200)

Variables	women n=200	
	No	%
Age in (years)		
<25	60	30.0
25-29	69	34.5
30-35	31	15.5
>35	40	20.0
(Mean±SD)	(28.42±6.30)	
Residence		
Urban	114	57.0
Rural	86	43.0
Education		
Illiteracy	۳۰	۱۷.۰
Read and write + basic education	۱۰	۷.۰
Secondary Education	۷۹	۳۹.۰
University education	71	35.5
Occupation (women)		
Employee	۱۱۱	۵۵.۰
House wife	89	44.5
Absence of husband from House due to work		
Yes	90	45.0
No	110	55.0
Period of time that the husband absent from House due to work (n=90)		
Less than a week	۳۰	38.9
A week - two weeks	۳۰	38.9
Month	۰	5.6
Less than a year	۰	5.6
Year or more	۱۰	11.0

Table 2: Obstetric history of the studied sample:

Obstetric History	Postpartum women N=200	
	No	%
<u>Parity:</u>		
Para one	100	50.0
Twice or more	95	47.5
<u>Number of abortion</u>		
No	140	70.0
Once	34	17.0
Twice or more	26	13.0
<u>Mode of deliveries:</u>		
Vaginal Delivery.	78	39.0
Cesarean section.	122	61.0
<u>Age of the last child</u>		
Less than one year	30	15.0
1--2	70	35.0
More than 2 years	110	55.0
<u>History of family planning</u>		
Yes	164	82.0
No	36	18.0
<u>History type of contraceptive use(n=164)</u>		
IUD	70	42.7
Pills	54	32.9
Injection	30	21.3
Barriers method	0	3.1
<u>Had previous unwanted pregnancies</u>		
Yes	77	38.0
No	123	61.0

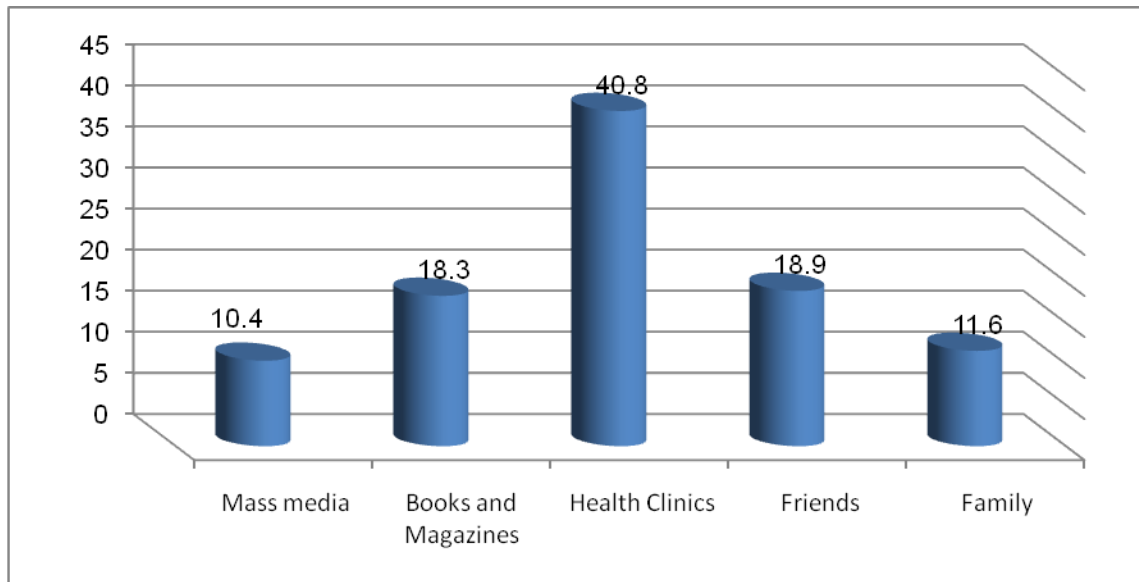


Figure (1): **Percentage distribution of studied women regarding Source of information about emergency contraception.**

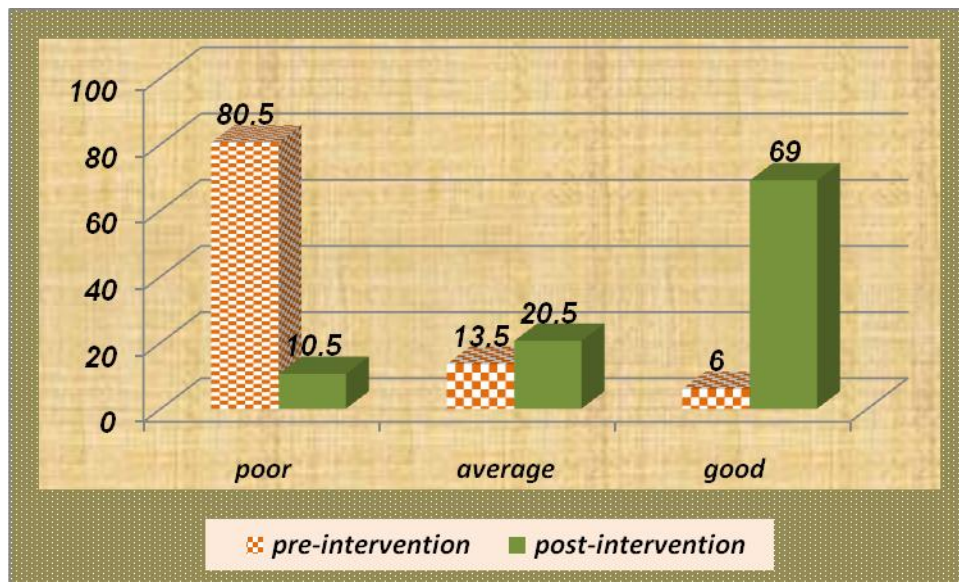


Figure (2) :**Percentage distribution of studied women regarding total knowledge score pre and post intervention about emergency contraception (EC)**

Table 3:Percentage distribution of studied women regarding their knowledge about emergency contraception

Variables	Pre intervention						Post intervention						Chi square test	p value
	Complete correct		Incomplete correct		Incorrect		Complete correct		Incomplete correct		Incorrect			
	No	%	No	%	No	%	No	%	No	%	No	%		
meaning of EC	15	7.5	75	37.5	110	55.0	85	42.5	105	52.5	10	5.0	137.33	<0.001**
Indication of EC	5	2.5	54	27.0	141	70.5	95	47.5	97	48.5	8	4.0	211.96	<0.001**
Using EC during breast feeding	32	16.0	0	0.0	168	84.0	173	86.5	0	0.0	27	13.5	177.11	<0.001**
Types of EC	5	2.5	60	30.0	135	67.5	85	42.5	100	50.0	15	7.5	198.93	<0.001**
Timing start EC pills after sex	35	17.5	0	0.0	165	82.5	185	92.5	0	0.0	15	7.5	158.28	<0.001**
Timing start EC IUD after sex	30	15.0	0	0.0	170	85.0	181	90.5	0	0.0	19	9.5	136.85	<0.001**
Methods can be used immediately after EC	30	15.0	104	52.0	66	33.0	114	57.0	86	43.0	0	0.0	227.27	<0.001**
Interval between doses of EC	15	7.5	0	0.0	185	92.5	190	95.0	0	0.0	10	5.0	228.70	<0.001**
Examine pelvic before EC pills	55	27.5	0	0.0	145	72.5	165	82.5	0	0.0	35	17.5	116.70	<0.001**

** Highly statistically significant difference at $P \leq .001$

Table 4: Percentage distribution of studied women regarding their knowledge about efficiency of emergency contraception.

Variables	Pre intervention				Post intervention				Chi square test	p value
	Correct		Incorrect		Correct		Incorrect			
	No	%	No	%	No	%	No	%		
Efficiency of the EC pills	34	17.0	166	83.0	158	79.0	42	21.0	306.44	<0.001**
Efficiency of the EC IUD	36	18.0	164	82.0	172	86.0	28	14.0	122.22	<0.001**
EC safety	10	5.0	190	95.0	170	87.5	25	12.5	185.25	<0.001**
Proportion of pregnant women after use EC	41	20.5	159	79.5	139	69.5	61	30.5	273.79	<0.001**
EC effective as regular contraceptive method	38	19.0	162	81.0	179	89.5	21	10.5	97.01	<0.001**
EC protection against HIV and other sexually transmitted disease	20	10.0	180	90.0	187	93.5	13	6.5	200.25	<0.001**

** Highly statistically significant difference at $P \leq .001$

Table 5: Percentage distribution of studied women regarding their knowledge about side effect and contraindication of emergency contraception

Variables	Pre intervention						Post intervention						Chi square test	p value
	Complete correct		Incomplete correct		Incorrect		Complete correct		Incomplete correct		Incorrect			
	No	%	No	%	No	%	No	%	No	%	No	%		
Side effect of EC	30	10.0	09	29.0	111	55.5	109	04.0	86	43.0	5	2.5	146.78	<0.001**
Take the dose again if vomiting within one hour of the first dose EC	25	12.0	0	0.0	175	87.0	104	77.0	0	0.0	46	23.0	168.26	<0.001**
EC cause abortion	30	15.0	0	0.0	170	85.0	124	62.0	0	0.0	76	38.0	93.29	<0.001**
The impact of EC on the ability of reproduction	44	22.0	0	0.0	156	78.0	162	81.0	0	0.0	38	19.0	139.36	<0.001**
EC cause ectopic pregnancy	61	30.0	0	0.0	139	69.0	179	89.0	0	0.0	21	10.0	145.04	<0.001**
EC pills contraindication	15	7.5	110	55.0	75	37.5	120	60.0	75	37.5	5	2.5	149.53	<0.001**
EC IUD contraindication	15	7.5	89	44.5	96	48.0	104	52.0	81	40.5	15	7.5	126.04	<0.001**

** Highly statistically significant difference at $P \leq .001$

Table (6): Frequency distribution of women according to their attitude toward emergency contraception (N=200)

Variables	Pre intervention						Post intervention						Chi square test	p value
	Agree		Uncertain		Disagree		Agree		Uncertain		Disagree			
	No	%	No	%	No	%	No	%	No	%	No	%		
EC used after sexual intercourse is not useful and non-secure.	81	40.5	79	39.5	40	20.0	5	2.5	80	40.0	115	57.5	103.45	<0.001 **
EC service not available	110	55.0	55	27.5	35	17.5	10	5.0	65	32.5	125	62.5	134.79	<0.001 **
EC not good idea for all women.	105	52.5	70	35.0	20	10.0	11	5.5	78	39.0	121	60.5	139.32	<0.001 **
Repeated use EC is a danger on the health.	106	53.0	79	39.5	20	10.0	0	0.0	76	38.0	124	62.0	172.11	<0.001 **
Use of EC reduces the continued use of condoms.	100	50.0	70	35.0	25	12.5	10	5.0	79	39.5	111	55.5	128.12	<0.001 **
All EC aren't available without a prescription a doctor or consulting pharmacist.	96	48.0	89	44.5	10	5.0	4	2.0	57	28.5	139	69.5	191.49	<0.001 **
Accesses to EC without a prescription reduce the use of regular contraceptive.	130	65.0	70	35.0	10	5.0	25	12.5	84	42.0	91	45.5	140.08	<0.001 **
Not recommend the use of EC if sex during unsafe period	105	52.5	80	40.0	15	7.5	20	10.0	85	42.5	95	47.5	116.13	<0.001 **

** Highly statistically significant difference at $P \leq .001$

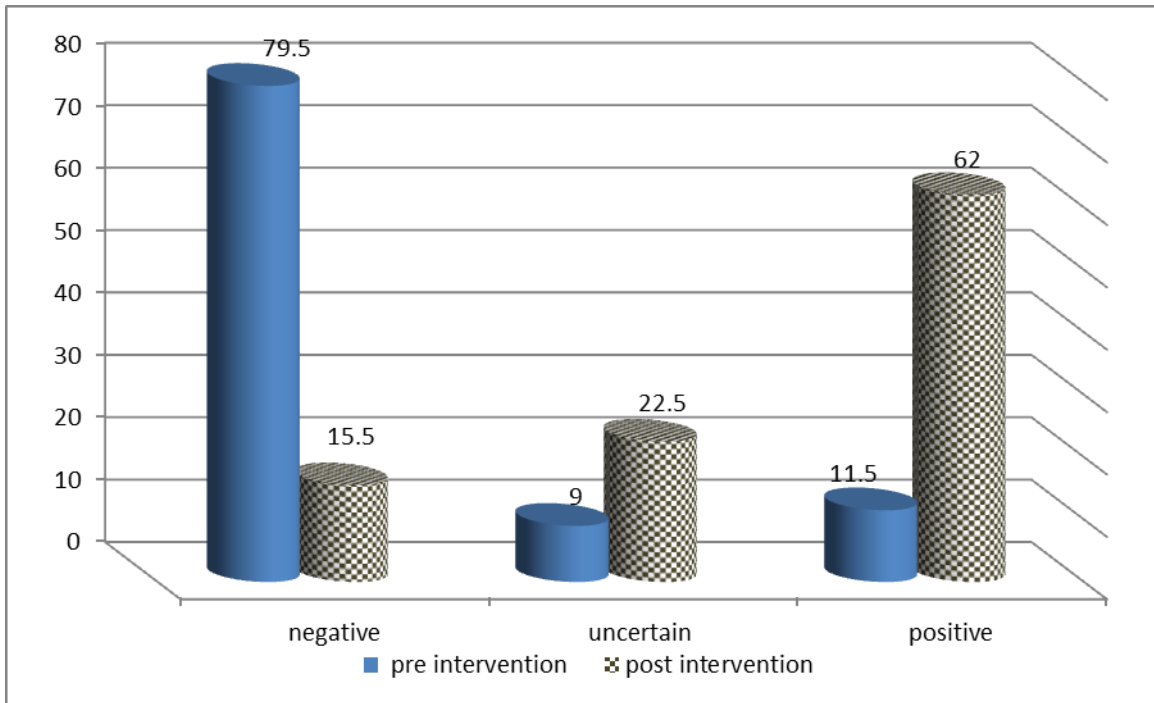


Figure (3):Percentage distribution of studied women regarding total score of attitude toward emergency contraception (N=200)

Table (7):Correlation between women knowledge and attitude about emergency contraception (N=200)

Variable	Total women knowledge pre intervention		Total women knowledge post intervention	
	r	P value	r	P value
Total attitude Pre intervention	0.922**	≤0.001	-	-
Total attitude Post intervention	-	-	0.761**	≤0.001

Table (8): **Relation between general characteristics and total women knowledge score about emergency contraception**

Variables	Pre intervention						Post intervention					
	Poor		Average		Good		Poor		Average		Good	
	No	%	No	%	No	%	No	%	No	%	No	%
Age in (years)												
<25	31	15.5	26	13.0	12	6.0	4	2.0	0	2.5	6	30.0
25-29	09	29.5	1	0.5	0	0.0	1	0.5	1	5.0	49	24.5
30-35	31	15.5	·	0.0	·	0.0	·	0.0	10	7.5	16	8.0
>35	40	20.0	·	0.0	·	0.0	16	8.0	11	5.5	13	6.5
X2 p value	10.14 p value ≤0.001						75.07 p value ≤0.001					
Education												
Illiteracy	30	17.5	·	0.0	·	0	16	8.0	19	9.5	·	0.0
Read and write + basic education	10	7.5	·	0.0	·	0	0	2.5	1	5.0	·	0.0
Secondary education	78	39.0	1	0.5	·	0	·	0.0	8	4.0	71	35.5
University education	33	16.5	26	13.0	12	6.0	0	0.0	4	2.0	67	33.5
X2 p value	81.25 p value ≤0.001						157.52 p value ≤0.001					
Residence												
Urban	78	37.5	27	13.5	12	6.0	1	0.5	29	14.5	84	42.0
Rural	6	43.0	0	0.0	0	0.0	20	10.0	12	6.0	54	27.0
X2 p value	36.54 p value ≤0.001						27.37 p value ≤0.001					
Occupation (women)												
Employee	96	48.0	91	4.5	6	3.0	3	1.5	23	11.5	85	42.5
House wife	65	32.5	8	9.0	6	3.0	18	9.0	18	9.0	53	26.5
X2 p value	6.62 p value 0.036						16.52 p value ≤0.001					
Absence the husband from house due to work												
Yes	72	36.0	18	9.0	0	0.0	4	2.0	12	6.0	74	37.0
No	89	44.5	12	6.0	9	4.5	17	8.5	29	14.5	64	32.0
X2 p value	14.94 0.001						13.96 0.001					
Period of time the husband absence from house due to work (n=90)												
Less than a week	20	27.7	10	11.1	·	0.0	·	0.0	2	2.2	33	36.7
A week - two weeks	27	30.0	8	8.9	·	0.0	4	4.4	3	3.3	28	31.1
Month	0	5.6	0	0.0	·	0.0	·	0.0	·	0.0	0	5.6
Less than a year	0	5.6	0	0.0	·	0.0	·	0.0	·	0.0	0	5.6
Year or more	10	11.1	0	0.0	0	0.0	0	0.0	7	7.8	3	3.3
X2 p value	24.33 p value .007						39.70 p value ≤0.001					

** Highly statistically significant difference at $P \leq .001$

Table (9): **Relation between general characteristics and total women attitude score about emergency contraception**

Variables	Pre intervention						Post intervention					
	Negative		Uncertain		Positive		Negative		Uncertain		Positive	
	No	%	No	%	No	%	No	%	No	%	No	%
Age in (years)												
<25	۲۹	14.5	۱۷	8.5	۲۳	11.5	۴	2.0	۶	3.0	۵۹	29.5
25-29		30.0		0		0.0		3.0		7.0		20.0
30-35	۶۰	15.0	۰	0.5	۰	0.0	۶	0.5	۱۴	7.5	۴۰	7.5
>35	۳۰	20	۱	0.0	۰	0.0	۱	10.0	۱۵	5.0	۱۵	5.0
	40		0		0		20		10		10	
X2 p value	91.19 p value ≤0.001						70.41 p value ≤0.001					
Education												
Illiteracy	۳۵	17.5	۰	0.0	۰	0.0	۲۱	۱۰.۵	۹	4.5	۵	2.5
Read and write + basic education		7.0		0.5		0.0		3.0		3.0		0.0
Secondary Education	۱۴	39.5	۱	0.0	۰	0.0	۹	۴.۵	۶	4.5	۰	34.5
University education	۷۹	15.5	۰	8.5	۰	11.5	۱	۰.۵	۹	10.5	۶۹	25.0
	31		17		23		۰		۲۱		50	
X2 p value	87.61 p value ≤0.001						124.47 p value ≤0.001					
Residence												
Urban	۷۳	36.5	۱۸	9.0	۲۳	11.5	۲	1.0	۳۳	16.5	۷۹	39.5
Rural	۸۶	43.0	0	0.0	0	0.0	29	14.5	12	6.0	45	22.5
X2 p value	38.90 p value ≤0.001						39.49 p value ≤0.001					
Occupation (women)												
Employee	۹۴	47.0	۱۱	5.5	۶	3.0	۷	3.5	37	18.5	۶۷	33.5
House wife	65	32.5	۷	3.5	17	8.5	24	12.0	8	4.0	57	28.5
X2 p value	9.130 p value 0.010						26.72 p value ≤0.001					
Absence the husband from House due to work												
Yes	70	35.0	16	۸.۰	4	2.0	5	2.5	15	7.5	70	35.0
No	89	44.5	2	۱.۰	19	9.5	26	13.0	30	15.0	54	27.0
X2 p value	21.15 p value ≤0.001						19.48 p value ≤0.001					
Period of time the husband absent From House due to work (n=90)												
Less than a week	۲۵	27.8	۶	6.6	۴	4.4	۰	0.0	۵	5.6	۳۰	33.3
A week - two weeks		27.8		11.1		0.0		4.4		6.6		27.8
Month	۲۵	5.6	۱۰	0.0	۰	0.0	۴	0.0	۶	0.0	۲۵	5.6
Less than a year	۵	5.6	۰	0.0	۰	0.0	۰	0.0	۰	0.0	۵	5.6
Year or more	۵	11.1	۰	0.0	۰	0.0	۰	1.1	۰	4.4	۵	5.6
	10		0		0		1		4		5	
X2 p value	36.75 p value ≤0.001						27.658 p value 0.002					

** Highly statistically significant difference at $P \leq .001$

V. DISCUSSION

The aim of the present study was to evaluate the effect of emergency contraception guidelines intervention on women's knowledge and attitude at Benha University Hospital. This aim was achieved through assessing women's knowledge about EC and their subsequent attitude, designing and implementing guidelines intervention about EC . Finally,evaluating the effect of these guidelines intervention on women's knowledge and their attitude towards EC.

The present study showed that the majority of studied women had poor knowledge about EC before guidelines intervention with significant difference post intervention . These findings follow the same line of *El-Sabaa, et al .(2013)* who reported that,there is a deficient knowledge about emergency contraceptives among women of reproductive age. The majority of them had not been offered data or counseling about EC, but were willing to get data and utilize these techniques when required. Additionally consistent with *Morhason-Bello et al. (2014)*who mentioned that complete formation and counseling as well as a wide choice of modern contraceptives, including EC should be part of a comprehensive program that addressing other sexual and reproductive health needs. Also,in accordance with *Sedigheh et al. (2014)* who stated that women need education about all aspects of EC, planning to achieve this aim. Physicians, nurses and midwives can educate women through books,pamphlets, films in this matter because with exact planning for healthy women.

Regarding to the side effects of ECPs, the most well-known side effects are nausea and vomiting .The present study revealed that more than half of studied women had poor knowledge about taking the dose again if vomiting within one hour of the first dose EC pre intervention with the significant difference post intervention . This result disagrees with *Charandabi et al. (2012)* who reported that around 40% of providers did not know about the need to repeat the dose in case of vomiting within two hours after taking the ECPs. Also, another study in Pakistan, by *Chung (2008)* showed that 33% of individuals did not know about this issue.

With respect to the main source of their knowledge about emergency contraception, the studied women demonstrated that nearly half of studied women source of knowledge was health clinics, while few women regard mass media as their source of knowledge. The poor knowledge level among women in this study might be attributed to lack of any educational program and service promotion on emergency contraception. This disagrees with *Lakkawar,etal. (2014)* who reported that clinician and electronic media were the most important source of information about EC. Likewise, conflicting with *Tajure and Pharm(2010)* who exhibit that the most basic sources of information were friends and radio . This also agrees with a report from Uganda among university students in which the main source was friends (34%), health institutions (24.8%) and schools (19.4%).

Regarding to the attitude of the studied women toward EC, the study revealed that more than half had negative attitude pre intervention about the availability of EC, this may be due to lack of counseling in family planning clinics about EC to women. On the other hand , more than two thirds of the studied women showed positive attitude toward using EC in case of the availability at the pharmacies and used in unprotected sexual intercourse , and EC is a good idea for all women post intervention . This is steady with *El-Zanatyetal. (2009)* who reported that despite its appealing role and long lasting legitimacy in Egypt, EC has not broadly acquired an established role in the arrangement of contraception. In the mentioned latest *University of Maine at Farmington(2015)*, just 5.6% of respondents knew about EC, in contrast to 99.7% and 99.8% who knew about pills and IUCDs. Also in the same line with *Shaaban et al. (2011)* who stated that in Egypt there is a big gap in knowledge level of EC which leads to non use or incorrect use of EC and negative attitude toward it. If health planners and policy makers could fill this gap, a considerable decline in the prevalence of unwanted pregnancy might be accomplished by utilizing EC.

Concerning morality and religion about EC ,the present study revealed that the majority of studied women had negative attitude pre intervention but post intervention more than two thirds had positive attitude about EC . The results are consistent with *Tilahumet etal. (2010)* who mentioned that negative attitude towards EC is likely to hinge around the social and moral

contexts of the sex preceding EC use, rather than focusing on mechanism of action. Regarding relation between general characteristics and total women attitude score showed that significant relation also revealed significant association between general characteristics and total women knowledge score about emergency contraception . on the other hand *Ahmed et al.(2012)* who mentioned that there is no statistically significant association between women perception about the existence of EC and their socio demographic characteristicsbut there is significant association between EC attitude and sociodemographic status of female remained when it was adjusted for age, region, , ethnicity, marital status, and family education.

Concerning correlation between women's knowledge and attitude about emergency contraception the present study revealed that positive correlation between knowledge and attitude pre and post intervention . This is similar with other reports *Langille ,etal. (2012) ; Xu, etal. (2007)* who have demonstrated that the group of good knowledge has a significantly higher positive attitude than those with poor knowledge but disagree with *Golezar, et al. (2014)*who showed that there is no significant correlation among level of knowledge, attitude and age.

Finally the results of the present study indicated that the studied women after implementing guidelines interventions had higher score in knowledge level and attitude than before intervention .Hence the current study supported the research hypotheses and significantly achieved the aim of the study .

VI. Conclusion

The study concluded that the majority of studied women had a poor knowledge about EC before guidelines intervention with significant difference post intervention.Also, more than half had negative attitude pre intervention about the availability of EC. There was a significant difference between general characteristics of women and total knowledge score about emergency contraception, there was a significant difference between general characteristics of women and total attitude score about emergency contraception. And also, there was a significant improvement regarding total knowledge score and significant positive attitude post intervention. Finally, it was cleared from the findings that hypotheses were supported .

VII. Recommendations

Based on the findings, the current study recommended that information about emergency contraceptives should be widely available and reach through health educational classes at the health settings and the private health sectors. Health care providers should be trained and encouraged to discuss the issue of emergency contraceptives with couples.

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Conflicts of Interest Disclosure

The authors declare that there is no conflict of interests regarding the publication of this paper

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