

Health education program in improving knowledge regarding emergency contraception among school teachers in Duhok

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ABSTRACT

Background: Emergency contraception (EC) is a general term used to describe drugs and devices that are utilized to prevent pregnancy following unprotected intercourse or in the event of contraceptive failure. This postcoital birth-control option is available by means of hormonal pills or copper-bearing intrauterine device.

Objectives: The objectives of the study were to assess the women's knowledge regarding EC, to compare the knowledge of school teachers with other women in the community, as well as assessing the pre-post test knowledge of teachers.

Type of the study: A cross sectional and quasi-experimental study.

Methods: It was carried out in Duhok during the period from 20th of November 2014 to 6th of January 2015. A Simple and systematic methods of sampling was used to collect 600 married women in their reproductive age group (15-49 years old), 300 visitors from Primary health Care Centers, and 300 from school teachers.

Results: showed that (77%) of study sample were used a natural (withdrawal) contraceptive way, while (3%)

heard about emergency contraceptive, (13.2%) of them had unintended pregnancy and (1.2%) had an experience of induced abortion. From those who heard about emergency contraception (2.7%) considered the hormonal pills were the methods of emergency contraceptive and the friends were the source of information in (1.5%). In addition, there is a highly significant difference between the teacher's knowledge in pre and post-test .

Conclusions: Our community knowledge toward EC is low, and there is a good benefit after doing the education program about the information regarding emergency contraception.

Keywords: Emergency contraception, Postcoital birth-control, Hormonal pills, Copper-bearing intrauterine device.

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The EC is an essential intervention for the prevention of unplanned pregnancy worldwide¹. This postcoital birth-control option is available in the form of hormonal pills or copper-bearing intrauterine device (IUD)².

The stories of modern emergency contraception return back to the 1920s. Veterinarians were the first to prove this finding, administering estrogens to dogs and to horses that had mated when their owners had not wanted them³.

The evidence of EC use in humans can be traced back to the early 1960s , when a Dutch physician administered high doses of estrogen postcoitally to a 13 years old female who was raped⁴.

In the early 1970s, Canadian physician Albert Yuzpe and his colleagues started their studies on the combined regimen (estrogen-progestin), a single dose of 100 mg of estrogen coupled with 1 mg of the progestin /Levonorgestrel leads to endometrial changes that are un-suitable with implantation of the fertilized ovum. Then "Yuzpe method," made up of 200 mg of ethinyl- estradiol and 1 mg of levonorgestrel , it became the standard course of treatment for a postcoital contraception in different countries in the 1980s⁵.

At the late of 1970s, the scientists offered the chief non-hormonal method available today, the copper-

IUD. This device causes endometrial changes that inhibit implantation³.

After that, the interest in progestin only treatments increased which is Plan B, which gained Food and Drug Administration (FDA) approval in 1999, is formulated in 2 tablets each contains 0.75 mg levonorgestrel pills⁶. On August 2006 it is available in pharmacies without a prescription, it has been allowed to be Over- The- Counter (OTC) at local pharmacies⁶. Next choice is Plan B One step which is a single dose of 1.5 mg levonorgestrel , it gained FDA approval for OTC in July 2009⁷.

Family planning helps the lifesaving of women and children, protects their health by preventing the unwanted pregnancies⁸.

In spite of EC has proved to be safe and effective, and the present of several modern contraceptive methods, most women haven't used it , and the problem of unwanted pregnancy is common, and carry a high risk of maternal mortality and morbidity because they are associated with unsafe abortions^{9, 10}.

The WHO estimates globally 210 million women become pregnant each year, two-thirds of them deliver live infants, the remaining one-third end in still birth, miscarriage or induced abortions. Of the estimated 42 million induced abortions each year, 20

million are performed under unsafe conditions and result in the deaths of an estimated 68000 women representing about 13% of all pregnancy resulted deaths^{11,12}.

It is clear that the use of EC will prevent the unwanted pregnancy as most of the women in our community use the natural methods of contraception. EC is a safe, a cheap, and an effective method, if the use of it as early as possible in the (3-5 days) after the intercourse in which her birth control failed and using sex without contraception, so it will give a woman a chance to prevent pregnancy¹³. The appropriate use of EC could prevent 75% of unplanned pregnancies, but if was taken within 72hrs of sexual intercourse can reduce the risk of unintended pregnancy up to 99%¹⁴, the use of EC is a little limit low, In the U.S, its usage has been reported as 9.4%, in Iran as 5.2% , and in South Africa as 4%¹⁵.

Subjects and Methods

A cross sectional and quasi - experimental study was carried out through the application of survey and pre-post test. The study period extended from 20th of November 2014 to 6th of January 2015. It was conducted in six of each of (Primary, Intermediate, and Secondary) schools and three Primary Health Care Centers (PHCCs) in Duhok.

A simple and systematic sample consisted a total of 600 women participate in this study as a survey, 300 from three PHCCs and 300 from school teachers, while the pre and post-test was performed (through education program which consists 3 parts: Knowledge about anatomy of female reproductive system, female menstrual cycle, & EC) for 30 teachers, 10 from each of the 3 kinds of schools. The data were collected systematically: After obtaining the oral consent of the participants, the background information were taken and the interview questionnaire form was administered by the investigator, the direct interview was done at the physician's room or at the teachers' room, the selected sample according to the list of the teacher's names started from the 2nd one and continuous as the 4th, 6th , ect. for each of the selected schools, and the same way of selection for the visitors in the PHCCs. The visits conducted for the schools on 3 days per a week with 3 hrs of work in each day, in the break time or at the rest time for each teacher, an average of 16 to 18 teachers were interviewed per a day, the time of interview took about (5-10) minutes. For the visits in the PHCCs were on 2 days per a week (on Sunday & Wednesday), because these days are the vaccination's days, with 3 hrs of work in each day, an average of 24 to 26 visitors were interviewed within the same time of interview. During the process of completion of the questionnaire any difficulties in the understanding of various items were explained to them to obtain the proper answers .

Inclusion criteria: Married women (Child-bearing) aged between 15-49 years.

Exclusion criteria: Families with diagnosed sterile or infertile couple.

The questionnaire formats (survey & pre-post test) were applied before implementation of educational program. The questionnaire was used as a mean of data collection, it contains the following :

*Survey questionnaire) consists of Socio-demographic characteristics, and women's & teacher's knowledge regarding EC.

*Pre-post test questionnaire: consists of Knowledge of the teachers who attended the educational program about EC.

Statistical analysis:

Data were analyzed by using Statistical Package for Social Sciences (SPSS, version 19) through the application of two approaches: Descriptive data analysis which is employed through : Frequency and Percentage %. And Inferential data analysis which is through : Chi square Test, Fisher's exact Test, Wilcoxon Signed Ranks Test (Comparison between pre and post knowledge scores) and Kruskal Wallis Test (to compare the difference among the three groups of teachers (Primary, intermediate, and secondary schools).

Results

The results show that the highest percentage (26.7%) of study sample was with in the age ranged between (25-29) years, while the lowest percentage (1.7%) of them was (15-19) years. And the highest percentage (41.3%) of women was college graduated, (50.1%) of them was teachers. The highest percentage (41.3%) of the sample study were college graduates. In regard to the occupational status (55.1%) of the total sample were employees. The number of children was between (1-2) in most of them (45%) and 29.7% had more than 5 children.

Table 1: reveals that the highest percentage (77 %) of study sample had used natural (withdrawal) contraceptive way, while (0.8 %) of the women used periodic abstinence.

Table 2: (13.2%) of women had unintended pregnancy, (10%) of them had pregnancy due to contraceptive (natural) failure. The highest percentage (98.8%) did not have an experience of induced abortion, while (1.2%) of them had for one time, the main reason to have an induced abortion in (0.7%) because that they didn't want more children.

Table 1: Distribution of women according to used way of contraception.

Variables		Frequency of women in PHCCs	%	Frequency of School teachers	%	Frequency of all women	%
Type of contraceptive	Natural withdrawal	239	79.7	223	74.3	462	77.0
	Pills	25	8.3	38	12.7	63	10.5
	Injection	6	2.0	8	2.7	14	2.3
	IUD	17	5.7	13	4.3	30	5.0
	Male..condom	4	1.3	8	2.7	12	2.0
	Periodic abstinence	2	0.7	3	1.0	5	0.8
	Female sterilization	7	2.3	7	2.3	14	2.3
Total		300	100.0	300	100.0	600	100.0

Table 2: The distribution of women according to No. of unintended pregnancy and induced abortion (n=600).

Variable		Frequency of women in PHCCs	%	Frequency of School teachers	%	Frequency of all women	%
No. of unintended pregnancy	No	258	86.0	263	87.7	521	86.8
	Yes	42	14.0	37	12.3	79	13.2
Total		300	100.0	300	100.0	600	100.0
How did you become pregnant	Contraceptive failure (Natural)	30	10.0	30	10.0	60	10.0
	Forget to take oral contraceptive	8	2.7	5	1.6	13	2.2
	Lack of knowledge about contraceptive	4	1.3	2	0.7	6	1.0
Total		42	14.0	37	12.3	79	13.2
Experience of induced abortion	No	293	97.7	0	0	593	98.8
	Yes	7	2.3	0	0	7	1.2
Total		300	100.0	0	0	600	100.0
Number of induced abortion	One	7	2.3	0	0	7	1.2
Total		7	2.3	0	0	7	1.2
Place of induced abortion	Self- infliction	3	1.0	0	0	3	0.6
	Clinics (Gynecologist)	2	0.7	0	0	2	0.3
	Untrained abortionist	2	0.7	0	0	2	0.3
Total		7	2.3	0	0	7	1.2
Reason to have induced abortion	Economic problem	3	1.0	0	0	3	0.5
	Don't want more children	4	1.3	0	0	4	0.7
Total		7	2.3	0	0	7	1.2

Table 3:reveals that (97%) the highest percentage of study sample had not heard about EC, while (3%) of the women had ,

(2.7%) of them said that the pills are the methods of EC. The source of information in the majority (1.5%) was from friends.

Table 3: Women knowledge regarding emergency contraceptive (n=600)

Variables		Frequency of women PHCCs	in %	Frequency of School teachers	%	Frequency of all women	%
Ever heard emergency contraceptive	No	288	96.0	294	98.0	582	97.0
	Yes	12	4.0	6	2.0	18	3.0
Total		300	100.0	300	100.0	600	100.0
Method reported as EC	Pills	10	3.3	6	2.0	16	2.7
	IUD	2	0.7	0	0.0	2	0.3
Total		12	4.0	6	2.0	18	3.0
Source of information about EC	Doctor	2	0.7	0	0	2	0.3
	Media	2	0.7	0	0	2	0.3
	Internet	1	0.3	0	0	1	0.2
	Friends	4	1.3	5	1.7	9	1.5
	Relatives	3	1.0	1	0.3	4	0.7
Total		12	4.0	6	2.0	18	3.0

Table 4: shows the difference between school teachers knowledge in pre and post-test, in the pre-test, 19 of the teachers had only 4 correct answers (out of 14 questions), and 10 of them got 5 correct answers, while only 1 teacher had answered 6 questions correctly.

Looking at the post-test, 16 teachers were fully successful with answering all of the 14 questions correctly; nevertheless, 4 of them had answered 3 questions incorrectly. And there was highly significant difference between school teachers knowledge in pre and post-test at $P \leq 0.05$.

Table 4: The difference between school teacher knowledge in pre and post-test (n=30)

Categories	Correct answers	Fr.	%	P-value
Pre - test	4	19	63.3	4.341*
	5	10	33.3	
	6	1	3.3	
Total		30	100.0	
Post - test	11	4	13.3	0.001*
	12	6	20.0	
	13	4	13.3	
	14	16	53.3	
Total		30	100.0	
Wilcoxon Signed Ranks test*				

Table 5: shows that there was no significant difference between school teachers knowledge regarding EC and their level of work at (primary, intermediate or secondary schools) as the $P > 0.05$.

Table 5: The difference between school teachers knowledge regarding EC with their levels of work (n=30)

Occupation	No.	Mean	SD	P- value
Teacher (P)	10	8.1667	2.37927	0.534*
Teacher (I)	10			
Teacher (S)	10			
Total	30			
Kruskal-Wallis test				

Discussion

Unplanned pregnancy is still one of the most common medical problems faced the sexually active women under 45 years. The majority a study sample (77.0%) were used the withdrawal (natural) contraceptive way, in comparison with the previous study in Duhok which revealed that(59.7%)of the sample used this method¹⁶, and only (3.0%) of married women used the natural method in another study which was done in Hong Kong¹⁷. This does not agree with the results of a study in Iraq, that (30.2%) of women used the oral contraceptive way in their study¹⁸.

Induced abortion is the most usual solution for the unplanned pregnancy problem. Concerning the unintended pregnancy, this current study revealed that (13.2%) of the study sample had unintended pregnancy, (10%) of them used the (Natural) withdrawal contraceptive way, and (1.2%) of them had an experience of induced abortion. These result were similar to the results of the study was done in Malaysia which had (7.5%) of unintended pregnancy, and (0.5%) of induced abortion¹⁹,and another one which was done in Ethiopia which revealed that(3.5 %) of study sample had unintended pregnancy, in (1.6%) of them the reason for unintended pregnancy was the contraceptive failure, also his result revealed that most of the adolescent pregnancies seem to be intended, because they happened with the marriage that arranged by the girls family due to some of the cultural influences²⁰.

But the previous finding didn't go with the results of others two studies, the first one in Chhattisgarh/ India which shows the unwanted pregnancy was in (45.6%) , induced abortion was in (34%) of them, and the reason of induced abortion was the complete of the family in (58%) of study sample²¹. And the second one was conducted in Ethiopia which showed that (92.1%) had unwanted pregnancy, (41.4%) of them forgot to take the contraceptive pills,(84.5%) of them had induced abortion, and the reason of induced abortion was fear of discontinuing school in (67.3%)²².

Regarding the knowledge about EC, only (3.0%) of the current sample were have an idea about it which was low and still much lower as compared with other countries. A study conducted in Addis Ababa/ Ethiopia, found (84.2%) were heard about EC, and the source of information from media was in (75.5%) of them²⁰. The knowledge about EC in this study also was in disagreement with another study was found that (95.9%) the sample heard about EC, while only a low percentage of them had no information about it , and the source of information from friends/relatives in more than one-third (33.8%) of them². Another study was done in Hong Kong revealed that (56.7%) of women heard about EC¹⁷. The result of a study that was conducted in Egypt found that (24.5%) of the study sample heard about EC, and the source of information from others was in(27.5%)²³.

The results of this study showed that there was high statistical significant differences between knowledge (p

value = 0.001) of the pre and post test in study sample, that means the teachers in post-test had more score than in the pre-test which indicated that the educational program was effective to have more knowledge about EC. The results of this study showed that there was no statistical differences between school teachers knowledge regarding EC with their levels of work. About the limitations of the study: first, there were no pervious literatures concerning nurse's and care provider's knowledge about EC and no previous survey. Second, because the study was applied during the student's class time, the duration of the interviewed was limited and it is hard to arrange the time.

In conclusion: there is a need to popularize EC in Duhok, for its better usage among women to avoid unwanted pregnancies and induced abortions, as if most of them have inadequate knowledge about EC and like the natural methods of contraception which has a higher failure rate and their asking about termination of unwanted pregnancy. In addition, the communication activities through media , internet and posters should be offered to the health staff and women who attended the family planning centers with regular training courses as there was a significant improvement in the level of knowledge among teachers in the post-training program. The advice for another rstudy & educational programs about the benefit & the use of EC is recommended.

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