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Knowledge, Attitude And Practice Of Emergency Contraceptive Usage Among Women Attending Phcs In Saudi Arabia 2021: A Cross-Sectional Study

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Abstract

Background: *Emergency contraceptive methods have proven efficacy in preventing pregnancies when administered shortly after unprotected intercourse. However, proper use is a key for efficacy. This study aimed to evaluate the level of knowledge, attitude, and practice of emergency contraceptive usage among childbearing women attending PHCs in Dammam and Khobar, Saudi Arabia.* ***Methods:*** *This is a cross-sectional study that included married women in childbearing period who were attending primary healthcare centers in Dammam and Khobar. A multistage random sampling technique was used and a total 460 women was included in this study. Data was collected using a predesigned questionnaire.* ***Results:*** *The majority of the studied sample (95.7%) had poor knowledge, and 31.7% had positive attitude with average attitude score 53.7±31.5. Among participants, only 25.8% reported having used EC before and 21.7 % reported that EC was effective. EC knowledge was significantly associated with educational level (p=0.001), family income per month (p=0.021), and number of offspring (p=0.007). Attitude was significantly associated with educational level (p=0.000), occupation (p=0.000), family income per month (p=0.000), number of offspring (p=0.001), and medical comorbidities (p=0.001). There was a significant association between attitude and having used EC before (p=0.000) and whether it was effective (p=0.000). Negative attitude was more prevalent among those who had not used EC before (p=0.000).* ***Conclusion:*** *The findings of the present study reveal very low levels of knowledge, higher negative attitude and low percentage of emergency contraception usage among married women. The major barriers identified were medical concerns of women and difficult accessibility. Poor knowledge was most prevalent among undergraduates, those with higher income, and those with three or more children. Negative attitude was more prevalent among undergraduates, housewives, those with high income, those with three or more children, and those free of medical comorbidities.*

Keywords: *Emergency contraceptive, primary health, Saudi Arabia*.

Introduction

According to the World Health Organization (WHO), emergency contraception refers to methods of contraception that can be used to prevent pregnancy after sexual intercourse" (1). Emergency contraception usage is indicated when there is a possible contraceptive failure, including slipped, torn, or incorrect use of condoms, missed dose of OCPs, unprotected intercourse, or sexual assault (1, 2, 3, 4).

In the Middle East and North Africa region, one in four pregnancies is unwanted, leading to unsafe abortions and jeopardizing the health and well-being of women and their families (5). There are two types of EC which are oral hormonal tablets and IUD. The oral hormonal tablets are called 'morning after pills' and should be taken as soon as possible after intercourse. The morning after pills are preferred to be taken within 72 hours of intercourse; however, it continues to be effective for up to 120 hours.

There are three regimens of EC, the first of which is Yuzpe, which consists of 2 doses of 100 micrograms of Ethinyl estradiol and 0.5 milligrams of levonorgestrel (LNG) taken 12 hours apart. The other regimen is LNG which consists of 2 doses of 0.75 mg (LNG) taken after intercourse and 12 hours later, which is the commonest EC prescribed. The third regimen is UPA 30 mg, taken as a single dose, and it is more effective between 72 to 120 hours after unprotected intercourse than other ECs. The second type of ECs is the copper-bearing intrauterine device inserted within five days of unprotected intercourse. It is highly effective in preventing more than 99 % of pregnancies, is a long-acting contraceptive method, and is reversible (2, 3, 5).

Despite the availability of multiple types of contraceptives, unwanted pregnancy remains high among women of childbearing age. Worldwide information of research that was collected in Saudi Arabia was not sufficient, contrary to the west studies that were conducted (2, 5). Lack of awareness, practice, and health education about emergency contraceptive use, making women head to illegal abortion, comes up with maternal complications and death (3, 6).

In 2018, a study was done in the obstetrics and gynecology clinic in Riyadh, Saudi Arabia, to assess knowledge and attitude about EC among Saudi women of childbearing age. It showed that Saudi women still are not educated enough about EC and know little about it (7). In 2018, A study from Botswana was done to assess the level of knowledge, attitudes, and practices of female students with regard to EC at the University of Botswana. It showed that overall high awareness level among female students at the University of Botswana, only half had good knowledge of EC, and less than half had positive attitudes towards using EC (6).

In 2017, A study from Nigeria was done to evaluate unplanned pregnancy risk and the use of emergency contraceptives in Nigerian Universities. It showed a lack of knowledge about Emergency contraceptive methods and timing of use among educated youths who participated in that study (8). Age has been a factor associated with better EC knowledge and awareness (9).

In March 2013, a study was conducted at King Khalid University Hospital in Riyadh, Saudi Arabia, to assess knowledge, attitude, and barriers to emergency contraception among married women of childbearing age. It revealed that the awareness of emergency contraceptives is very low among women in Saudi Arabia, and the least reported source of information was health care professionals, which made it unclear for women (5).

Another study was done in The Eastern Black Sea Region of Turkey in 2008. A prospective cross-sectional study conducted in a hospital aimed to evaluate the knowledge level of females about EC and its association with contraceptive attitudes and sociodemographic characteristics showed that awareness and knowledge of EC were low among the women in this study (2).

Study rational

Unintended pregnancy is a common issue in our society. There is no adequate research conducted in an eastern province about awareness attitudes and practices regarding EC, so we

need to cover this gap. Also, the previous study done in Riyadh showed a low level of awareness and knowledge about EC, so we should assess the level of awareness in our region to encourage health care professionals to increase their awareness by appropriate reproductive health counseling services.

Research question

What is the level of knowledge, attitude, and practice of emergency contraceptive usage among childbearing women attending PHCs in Dammam and Khobar, Saudi Arabia?

Aim

The aim of this study is to evaluate the level of knowledge, attitude, and practice of emergency contraceptive usage among childbearing women attending PHCs in Dammam and Khobar, Saudi Arabia.

Objectives

To assess the level of knowledge of emergency contraceptive usage among childbearing women attending PHCs.
To measure the attitude of emergency contraceptive usage among childbearing women attending PHCs.
To determine the practice of emergency contraceptive usage among childbearing women attending PHCs.
To identify factors affecting knowledge, attitude, and practice of emergency contraceptive usage among childbearing women attending PHCs.

Materials and methods

Study design

Cross-sectional study.

Study setting and period

The study was conducted in PHCs in Khobar and Dammam, KSA, during the years 2021 to 2022.

Study Population

The study population comprised childbearing women attending PHCs in Dammam and Khobar.

Eligibility criteria

Inclusion criteria:
Married women aged from 18 to 45 years.

Sample Size and Technique

A multistage random sampling technique was used. There are 30 PHCs in Dammam and 13 PHCs in Khobar affiliated to MOH. In the first stage, primary health care centers were selected randomly according to proportion (60 in Dammam: 40 in Khobar) to be 18:5 PHCs in Dammam and Khobar, respectively. In the second stage, the females who fulfilled the selection criteria were selected by simple random technique from selected centers, proportionally according to the number of attendants.

Sample size

The sample size was calculated using Rao soft sample calculator. The estimated number of women attending primary health care centers during one month in Dammam and Khobar was 104705 with a 95% confidence level, 5% margin of error, and 50% response distribution; the recommended sample size was 383 after adding 20% non-response the sample will be 460.

Study Instrument and Tools

A self-administered questionnaire was distributed to childbearing women attending PHCs in Dammam and Khobar. The questionnaire was adopted from many studies (3,5,7,10-12). The questionnaire was validated by eight family physician consultants, and reliability was tested after performing a pilot study. Cronbach's Alpha for knowledge items was 0.75 and for attitude items was 0.74. The questionnaire was translated into Arabic.

The questionnaire consists of 4 parts:

- Part one: sociodemographic (age, education level, occupation, family income, number of children, medical comorbidities)
- Part two: knowledge (heard of EC, Source knowledge for EC, visiting a family planning clinic, availability without prescription, recommended time and number of ECPs, recommended time for IUCD on emergency contraception).
- Part three: attitude (Using EC after unprotected intercourse, the safety level of EC, feeling shy to ask for EC, recommending other friends to use EC, fear of using EC, fear of EC side effects, the negative effect of EC on other methods of EC, Factors that interrupt using EC).
- Part four: practice (previous history of unwanted pregnancy, previous experience of using EC, the effectiveness of EC (.

Study variables

Dependent variables: Knowledge, attitude, and practice of childbearing.

Independent variables: Educational level, occupation, income, medical condition, age, religious ideas, accessibility.

Pilot Study

A cross-sectional pilot study was performed prior to conducting a definitive study to ascertain that the questionnaire was clear and easy to be understood by the respondents. It was distributed to 30 childbearing women attending PHCs, and MOH in the Eastern province. The results of a pilot study were excluded from the final research results. Based on the result, modifications were performed.

Scoring of the questionnaire:

Correct answer=1, Incorrect answer=0. The total score percentage was then calculated, and knowledge level was considered good at 75% of the total score.

Data analysis and Management Plan

The data were analyzed using the Statistical Package for Social Sciences (SPSS ver. 26.0, IBM Corporation, USA) for MS Windows. Continuous variables were presented as mean, median, and standard deviation. Categorical variables were presented as frequencies and percentages. The statistical comparison of the distribution of categorical variables was tested using Pearson's Chi-Square test. P-values less than 0.05 were considered statistically significant.

Ethical considerations

IRB approval was requested prior to the study implementation and obtained before data collection. Informed consent and appropriate knowledge about the research were provided on the front page of the survey. All the survey data were kept confidential and safe and used for research purposes only. The authors declare no conflict of interest.

Results

Our study included a total of 460 women, where the majority (62.2%) of the studied sample was aged between 31 and 45 years. Over half of the respondents held an undergraduate degree (52%), had more than 10000 SR income per month (56.7%), and were housewives (58.5%). Over two-fifths of respondents (43.9%) had three or more offspring, and the majority did not have medical comorbidities (78.8%) (Table 1).

Table 2 shows the emergency contraception knowledge items among respondents. Only 4.3% had good knowledge (>75%), whereas the majority (95.7%) had poor knowledge (<75%). Only 18.7% knew the recommended time to take the ECPs after intercourse, and 16.5% recognized the recommended time for IUD implantation for emergency contraception after unprotected intercourse. The recommended number of doses was recognized as one by 21.3%, two by 23.9% and three by 12.2% of respondents. Recommended time between doses was believed to be 12 hours and 24 hours by 27.6% and 19.8% of participants, respectively.

Table 3 shows the attitude of respondents towards emergency contraception. Of all, 31.7% had a positive attitude, and the average attitude score was 53.7±31.5. Over half of the participants agreed that the EC is safe for those who used it (58.7%) and that they would use EC if they had unprotected intercourse (64.2%). At the same time, a high percentage (63.9%) of participants don't want to use EC because they are afraid of side effects. The majority, however, disagreed that the reason to not use EC is religious (66.9%) and that the reason to not use EC is financial (69.5%). Among all, 43.9% of respondents agreed that the reason to not use EC is medical, whereas 40.7% agree that the reason to not use EC is difficult accessibility.

Table 4 shows the practice of participants related to EC use. Of all, only 25.8% reported having used EC before and 21.7 % reported that EC was effective. Among the respondents, 42.6% had an unwanted pregnancy before, and 38.3% think that both husband and wife are supposed to decide on EC use.

According to table 5, EC knowledge was significantly associated with educational level (p=0.001), family income per month (p=0.021), and the number of offspring (p=0.007). Good knowledge was more common among high school graduates (70%), house-wives (60%), those whose family monthly income is average (5000-10000 SR) (60%), and those who have three or more offspring (60%). Poor knowledge was most prevalent among undergraduates (53%), those with higher income (57.5%), and those with three or more children (43.2%).

Attitude was significantly associated with educational level (p=0.000), occupation (p=0.000), family income per month (p=0.000), number of offspring (p=0.001), and medical comorbidities (p=0.001). The positive attitude was more common among those with undergraduate education (52.7%), employed women (56.2%), those with the highest family monthly income (65.1%), those with three or more offspring (39.7%), and those without other medical comorbidities (87.7%). Negative attitude was more prevalent among undergraduates (51.6%), housewives (65.3%), those with high income (52.9%), those with three or more children (45.9%), and those free of medical comorbidities (74.6%).

Table 6 shows the association between attitude and practice items. There was a significant association between attitude and having used EC before (p=0.000) and whether it was effective (p=0.000). Negative attitude was more prevalent among those who had not used EC before (p=0.000).

Table 1: Sociodemographic characters among respondents (n=460).

Parameter		Frequency (%)
Age, y	18 to 30	174 (37.8)
	31 to 45	286 (62.2)
Educational level	Primary educated	31 (6.7)
	High school	141 (30.7)
	Undergraduate	239 (52.0)
	Post-graduate	49 (10.7)
Occupation	Housewife	269 (58.5)
	Employed	191 (41.5)
Family income per month	Less than 5000 SR	47 (10.2)
	Between 5000-10000 SR	152 (33.0)
	More than 10000 SR	261 (56.7)
Number of children	None	75 (16.3)
	One	86 (18.7)
	Two	97 (21.1
	Three or more	202 (43.9)
Medical comorbidities	Yes	97 (21.2)
	No	360 (78.8)

Table 2: Emergency contraception knowledge among respondents (n=460).

Knowledge items		**Frequency (%)**
Recommended time to take ECPs	**Immediately**	82 (17.8)
	Within 24 hrs after intercourse	86 (18.7)
	Within 48 hrs after intercourse	49 (10.7)
	Within 72 hrs after intercourse	65 (14.1)
	I don't know	178 (38.7)
The recommended number of pills	**One tablet**	98 (21.3)
	Two tablets	110 (23.9)
	Three tablets	56 (12.2)
	I don't know	196 (42.6)
Recommended time between the doses	**12 hrs apart**	127 (27.6)
	24 hrs apart	91 (19.8)
	I don't know	242 (52.6)
Recommended time for IUCD on emergency contraception	**Within 24 hrs after intercourse**	56 (12.2)
	Within 72 hrs after intercourse	76 (16.5)
	Within 5 days after intercourse	76 (16.5)
	I don't know	252 (54.8)
Knowledge score	**Poor knowledge**	440 (95.7)

	Good knowledge	20 (4.3)

Table 3: Emergency contraception attitude among respondents (n=460).

Attitude items		Strongly agree	Agree	Disagree	Strongly disagree
I would use ECP if I have unprotected intercourse		148 (32.2)	147 (32.0)	89 (19.3)	76 (16.5)
The EC is safe for those who use it		82 (17.8)	188 (40.9)	118 (25.7)	72 (15.7)
I would feel shy to ask for EC		40 (8.7)	70 (15.2)	215 (46.7)	135 (29.3)
I fear that Emergency contraception is one way of abortion		99 (21.6)	169 (36.9)	129 (28.2)	61 (13.3)
I don't want to use EC afraid of side effects		112 (24.3)	182 (39.6)	107 (23.3)	59 (12.8)
Emergency contraception will affect ongoing regular methods of contraception negatively		79 (17.2)	171 (37.2)	151 (32.8)	59 (12.8)
The reason for not using EC is religious		49 (10.7)	103 (22.4)	156 (33.9)	152 (33.0)
The reason for not using EC is medical		57 (12.4%)	145 (31.5%)	137 (29.8%)	121 (26.3%)
The reason for not using EC is financial		36 (7.8%)	104 (22.6%)	191 (41.5%)	129 (28.0%)
The reason for not using EC is difficult to access		65 (14.1%)	123 (26.7%)	158 (34.3%)	114 (24.8%)
Attitude score	**Negative attitude**	314 (68.3%)			
	Positive attitude	146 (31.7%)			

Table 4: Emergency contraception practice among respondents (n=460).

Practice items		Frequency (%)
Did you have unwanted pregnancy before	**Yes**	196 (42.6)
	No	264 (57.4)
Have you ever used an emergency contraceptive	**Yes**	118 (25.8)
	No	339 (74.2)
Who decides the use of EC	**Wife**	36 (7.8)
	Husband	38 (8.3)
	Both	176 (38.3)
	Never used before	210 (45.7)
If you used EC before, was it effective or not?	**Yes**	100 (21.7)
	No	22 (4.8)
	Never used before	338 (73.5)

Table 5: Emergency contraception knowledge and attitude in association with sociodemographic characters (n=460).

Parameter		Knowledge		Attitude	
		Good knowledge	Poor knowledge	Positive attitude	Negative attitude
Age, y	18 to 30	4 (20.0%)	170 (38.6%)	49 (33.6%)	125 (39.8%)
	31 to 45	16 (80.0%)	270 (61.4%)	97 (66.4%)	189 (60.2%)
	P-value	0.093		0.198	
Educational level	Primary educated	0 (0%)	31 (7.0%)	0 (0%)	31 (9.9%)
	High school	14 (70.0%)	127 (28.9%)	43 (29.5%)	98 (31.2%)
	Undergraduate	6 (30.0%)	233 (53.0%)	77 (52.7%)	162 (51.6%)
	Post-graduate	0 (0%)	49 (11.1%)	26 (17.8%)	23 (7.3%)
	P-value	**0.001***		**0.000***	
Occupation	Housewife	12 (60.0%)	257 (58.4%)	64 (43.8%)	205 (65.3%)
	Employed	8 (40.0%)	183 (41.6%)	82 (56.2%)	109 (34.7%)
	P-value	0.888		**0.000***	
Family income per month	Less than 5000 SR	0 (0%)	47 (10.7%)	3 (2.1%)	44 (14,0%)
	Between 5000-10000 SR	12 (60.0%)	140 (31.8%)	48 (32.9%)	104 (33.1%)
	More than 10000 SR	8 (40.0%)	253 (57.5%)	95 (65.1%)	166 (52.9%)
	P-value	**0.021***		**0.000***	
Number of children	None	0 (0%)	75 (17%)	13 (8.9%)	62 (19.7%)
	One	0 (0%)	86 (19.5%)	32 (21.9%)	54 (17.2%)
	Two	8 (40.0%)	89 (20.2%)	43 (29.5%)	54 (17.2%)
	Three or more	12 (60.0%)	190 (43.2%)	58 (39.7%)	144 (45.9%)
	P-value	**0.007***		**0.001***	
Medical comorbidities	Yes	4 (20%)	93 (21.3%)	18 (12.3%)	79 (25.4%)
	No	16 (80%)	344 (78.7%)	128 (87.7%)	232 (74.6%)
	P-value	0.891		**0.001***	

*Statistical significance difference at p≤0.05

Table 6: Attitude in association with practice items (n=460).

Practice items		Attitude		P-value
		Positive attitude	Negative attitude	
Did you have unwanted pregnancy before	**Yes**	64 (43.8%)	132 (42%)	0.717
	No	82 (56.2%)	182 (58%)	
Have you ever used an emergency contraceptive	**Yes**	66 (46.2%)	52 (16.6%)	**0.000***
	No	77 (53.8%)	262 (83.4%)	
Who decides the use of EC	**Wife**	12 (8.2%)	24 (7.6%)	0.198
	Husband	16 (11%)	22 (7%)	
	Both	61 (41.8%)	115 (36.6%)	
	Never used before	57 (39%)	153 (48.7%)	
If you used EC before, was it effective or not?	**Yes**	58 (39.7%)	42 (13.4%)	**0.000***
	No	9 (6.2%)	13 (4.1%)	
	Never used before	79 (54.1%)	259 (82.5%)	

*Statistical significance difference at $p \leq 0.05$

Discussion

Unintended pregnancy (both planned and unintended) is a worldwide public health issue (13). One in every four pregnancies in the Middle East and North Africa (MENA) area is thought to be unplanned (14). EC has the potential to help reduce unplanned pregnancies. Contraceptives have been available in the Arab region for many years (14), but emergency contraception availability and counseling are limited and not widely used.

This study included 460 women in the childbearing period who were surveyed about EC. Low percentage had a knowledge score of >75% regarding EC, demonstrating the relevance of health education and the benefits of health information campaigns conducted by the government or specific institutions throughout Saudi Arabia. This knowledge level is even less than that reported by Karim et al. in 2015, whom they reported a knowledge level of 6.2% (15). In Egypt (2013), El-Sabaa et al. conducted a descriptive cross-sectional study at family health care centers in Alexandria to determine the awareness and use of emergency contraceptive techniques among women of reproductive age. The majority of the women (75.5-79.4%) were unaware of emergency contraception, which is less than in our study, where 95.7% had poor EC levels. Only 21.5 percent of them had ever used emergency contraception, which is comparable to our finding (25.8%) (20).

Our results also found that there was a significant association between attitude and having used EC before (p=0.000) and whether it was effective (p=0.000). Negative attitude was more prevalent among those who had not used EC before (83.4%). In the Marafie et al. study which conducted a cross-sectional study in Kuwait (2007) to investigate women's awareness and attitudes toward hormonal emergency contraception, only 6.1 percent had heard of hormonal emergency contraception, and only 1.5 percent had used it, which is much less than our finding (25.8%). According to Marafie et al., almost two-thirds of women (65.2%) said they would not use hormonal EC or tell a friend about it. The main obstacles were health concerns (83.3%), health concerns for the baby (54.5%), and the fact that it was abortifacient (21.2 %). On the

other hand, the vast majority of them (90.9%) desired hormonal emergency contraception (17), whereas the most significant barriers in our study were medical reasons (43.9%) and difficult accessibility (40.8%).

One of the key causes of the lack of contraceptive use among women has been attributed to a lack of knowledge about the methods (16). This can be a result of culture, a lack of counseling, or even a reflection of social norms. The amount of awareness among Saudi women is comparable to what Marafie reported (17). A common background, status, living conditions, and geography could be one cause for this. Younger age, working status, and education are all significant factors of contraceptive use, according to the literature (18, 19). According to the findings of this study, older women had less knowledge of EC than younger ones. This could be due to the younger generation's increased education and exposure to social media.

Conclusion

The findings of the present study reveal very low levels of knowledge, higher negative attitude and low percentage of emergency contraception usage among married women. The major barriers identified were medical concerns of women and difficult accessibility. Poor knowledge was most prevalent among undergraduates, those with higher income, and those with three or more children. Negative attitude was more prevalent among undergraduates, housewives, those with high income, those with three or more children, and those free of medical comorbidities. For further clarification, qualitative studies are needed to explore in-depth the misconceptions. We recommend that health care professionals should be encouraged to provide appropriate counseling services related to reproductive health in their consultations tailored to the country-level characteristics in light of the social norms and religious values. Increase the awareness of married women about the recommended time to take the ECPs after intercourse, the recommended time for IUD implantation for emergency contraception after unprotected intercourse, the recommended number of doses and recommended time between doses. Change the negative attitude towards the usage of EC especially among undergraduates, housewives, those with high income, those with three or more children, and those free of medical comorbidities is necessary by family medicine physicians.

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