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Effect of the Knowledge of Emergency Contraception among Married Female attending in primary health care Makkah Al- Mokarramah at Saudi Arabia 2022

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ABSTRACT

Background

The usage of contraceptive has acknowledged as a significant part in reducing fertility and control of population, which in turn is important for the development of the nation. Contraception is an effective mean of Family Planning (FP) and fertility control, promotes maternal and child health. It is interesting to explore the perception and use of contraceptives among Saudi women. Unintended pregnancies pose a major challenge to the reproductive health of young adults in developing countries. Tertiary institution students are an important high-risk group in any society and emergency contraceptives (EC) can prevent unintended pregnancies and its consequences in this high risk group, use of emergency contraceptive (EC) methods, provides a second chance to prevent unintended pregnancy and reduce maternal morbidity and mortality. Providing women with knowledge about intrauterine cupper device as EC will affect their understanding and change their attitude towards EC and hence increase their utilization of this method.

Aim of the study: To assessment the Effect of the Knowledge of Emergency Contraception among Married Female attending in primary health care in Saudi Arabia 2022.

Methods: cross sectional descriptive study has been conducted using Saudi female who fulfilling the inclusion criteria, used to randomly select female from Primary Health Care Centers (PHCCs) in Makkah in Saudi Arabia. using a well-structured pretested questionnaire composed of four main parts to collect the data. Our total participants were (300).

Results: show the only (38.0%)of the participated were >35 years while (34.0%) Range 20-48 and the marital status Majority of them (79.0%) were currently married, regarding the Number of children most of participant heave tow children were (37.0%) had more than two children were(35.0%), the occupation the majority of participant teacher were (44.0%) regarding the Educational level the majority of participant graduated were (40.0%) regarding Income (Saudi Riyals/month) the most of participants <5000 were (41.0%).

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Conclusion: This study showed poor knowledge of emergency Contraception. Oral pills were the commonest used method and lack of knowledge about emergency Contraception was the commonest reason for not using emergency Contraception. Awareness programmes should be organized by the primary health care management on emergency contraception and other modern contraceptive methods

Keywords: Effect, Knowledge, Emergency, contraception, PHC, Married Female, Makkah

Introduction

Background

Unprotected sexual intercourse and contraceptive method failure lead to unintended pregnancies. Unsafe abortion is a major public health problem in developing countries where women make several attempts to terminate unintended pregnancy before turning to health services and constitute important cause of maternal mortality and morbidity.(1)

Because of the alarming population explosion, effective fertility control drugs are the needs of the hour.(2) Request of emergency contraception Emergency Contraception comes from two main groups. The first group is already using contraception but has a problem, such as condom failure or missed contraceptive pills.(3) The second group does not use contraception because they are not expecting to have sex. It is, therefore, evident that there must be a system in place to provide a comprehensive and effective postictal contraception service for all of those women who require it.(4) Emergency contraception has the potential to significantly reduce the incidence of unwanted pregnancies and consequent need for abortion.(5) Unintended pregnancies are still a major public health concern. Unintended pregnancies affect 74 million women in low and middle-income nations each year. Every year, this results in 25 million unsafe abortions and 47,000 maternal deaths (6). It is a choice to give a protection from unprotected intercourse, reproductive compulsion, poor commitment and failure in contraceptive method used (7). Many methods of EC have been known but, only six methods have been clinically used. These are the high dose estrogens, combined estrogen progestogens pills, progestogen only (levonorgestrel) pills, IUCD, danazol and mifepristone (8). Intrauterine copper device is the only choice that can works after fertilization. (9) IUCD as an EC works by having a toxic effect on the ovum and sperm that develop shortly after it is implanted. When the chance of fertilization has already occurred, however, its effectiveness is dependent on an anti-implantation impact (10). Copper intrauterine devices (IUDs) are a powerful kind of EC. The failure rate is estimated to be around 0.1 percent (11). It is regarded as the most efficient contraceptive technique currently available. (12). In addition, its highly effective rate, it is considering the most suitable method in some cases where emergency contraceptive pills may be less effective, as in obese women, in the fertile women and those with recurrent events of unprotected intercourse (13). When used as an EC technique, IUCD is completely safe. It is estimated that there are 2 incidences of pelvic inflammatory illness for every 1000 people who utilize IUCD as an EC technique (pelvic inflammatory diseases).Expulsion or perforation is also unlikely. (14). Behind safety of IUD it carries 2 distinguished advantages as EC when compare to oral EC pills as its highly effective method (pregnancy rates of $\leq 0.2\%$). It also can continue highly effective contraception for over a decade (15).

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Literature Review

Demissie, et al (2020). Reported that unintended pregnancy is still a major issue despite technological advancement in modern contraceptive methods, but this can be reduced with EC.(16) Socioeconomic features the same as age, marital status, education level, age of marriage, duration of marriage, number of desired children, socio economic class, religion and nationality were factors adversely connected with contraception due to their impacts on women's actions and their state of health. The effects of these variables well established in several other comparable research. (17,18). Study in Princess Nourah Bint Abdulrahman University in Riyadh found that more than a half of female employees at Princess Nourah Bint Abdulrahman University in Riyadh were using contraceptive methods(71.4%), similar connection with confirming The fact that the non-illiterate population of the Middle East is a frequent user of contraception (19). From the same point of view, Quereishi et al 2017 concluded that awareness has also risen with a rise in the level of education. (20)

In Saudi Arabia (2021), Karim et al. carried out a cross-sectional survey to evaluate knowledge, attitude, and barriers regarding EC among married women of reproductive age attended family practice clinics of King Khalid University Hospital, Riyadh. A Minority of women (6.2%) had some knowledge of EC and of these only two women had ever used it. Regarding the source of their information about EC, health care professionals were the least reported source one (6.6%), Majority (73.3%) had a negative attitude toward EC being available over-the-counter without a prescription. Possible health effects were the most common barriers to use EC. Religious belief as a major hindrance to its use reported by 13.3% of the respondents (21). In Egypt (2020), El-Sabaa et al. implemented a descriptive cross-sectional study to identify the awareness and use of emergency contraception tools among women of reproductive age at the family health care centers in Alexandria. Majority of the women (75.5-79.4%) did not know EC, reported that emergency contraception could be used after unprotected intercourse and in case of failed usual methods respectively. Only one-fifth of them (21.5%) ever used emergency contraception. (22). On the same line, (Hassan et al., 2020), who carried out their study in Egypt to assess the effect of an educational guidelines on childbearing women's knowledge, attitude and their intention regarding EC use, and reported that there were highly statistical significant difference between pre and post intervention regarding definition, advantages, types, time of IUD insertion, side effect and mode of action.(23) Also AbdElmoniem et al (2018), who applied their study in Egypt to evaluate the effect of EC guidelines on women's knowledge and attitude, and reported that there were highly statistical significant difference between pre and post intervention regarding meaning, indication, types, timing start after sex and contraindication to use ECIUD. (24). On the same line, Hassan et al., 2020, who carried out their study in Egypt to assess the effect of an educational guidelines on childbearing women's knowledge, attitude and their intention regarding EC use, and reported that there were highly statistical significant difference between pre and post intervention regarding definition, advantages, types, time of IUD insertion, side effect and mode of action.(23) Also AbdElmoniem et al 2018, who applied their study in Egypt to evaluate the effect of EC guidelines on women's knowledge and attitude, and reported that there were highly statistical significant difference between pre and post intervention regarding meaning, indication, types, timing start after sex and contraindication to use ECIUD.(24). The same opinion was reported by Thongnopakun et al., 2018, who shown that after implementing an educational program, women's knowledge of EC improved significantly. (25) Also, Hassan et al., 2020 and AbdElmoniem et al 2018 agreed with previous findings and showed also a significant improvement in the level of knowledge after

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receiving educational program about EC. As regard intention to use ECIUD after educational the present study's findings illustrates that more than three fifth of studied women have the intention to use IUD as EC method in the future. (23,24) On the same line Hassan et al., 2020 revealed that more than three fifth of studied women would be intended to use EC method in the future. (23)

Rationale

Islam is the main religion in the Saudi religious society and (only a few of the participants reported that being Haram or not allowed in Islam or Children are a blessing from God), expected its role as barrier for using contraception. In KSA the contraceptives user rate is higher than the normal user rates in the world and nearly equal to developed countries. Despite the availability of emergency contraception methods in the Kingdom of Saudi Arabia, they are still relatively unknown by most women. The importance of emergency contraception in preventing unintended pregnancies, which may lead adverse effects. Very little known about awareness and utilization of emergency contraception among Saudi women the contraceptive pills are the commonest contraceptive methods used among Saudi women, followed by the IUD and withdrawal methods.

Aim of the study

To assessment the Effect of the Knowledge of Emergency Contraception among Married Female attending in primary health care in Saudi Arabia 2022

Objectives

To assessment the Effect of the Knowledge of Emergency Contraception among Married Female attending in primary health care in Saudi Arabia 2022.

Methodology

Study Design:

A cross-sectional study .

The study area

Makkah AL-Mukarramah is the holy capital city of Islam, which is the most blessed and religious city and it has the home of direction of Muslims prayer. This study was conducted at antenatal care clinics at Ministry of Health (MOH) PHC centers in Makkah city. There are 84 PHC centers in Makkah distributed over seven health sectors, belonging to MOH. The PHCC offers several services including antenatal clinics.

Study population eligibility

Married Saudi women in the childbearing age who are attending antenatal care clinics at PHC centers, MOH in Makkah throughout the study period constituted the target population for the study.

Inclusion criteria

All married Saudi female childbearing ages who are attending antenatal care clinics at PHC in Makkah**.**

Exclusion criteria

- Single females

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- Non-Saudi female

Sample size

The calculation of the sample size was done by using the Raosoft sample size calculator with assuming a 95% confidence level, 5% sampling error, and 50% probability of prevalence. The total was 300, and the minimum recommended size is 300.

Sampling technique

Multistage sampling technique was adopted. In the first stage, two health sectors out of the seven in Makkah were select by simple random method (Aladel, Alzaher sector) as selected. In the second step, two PHC centers were chosen by simple random technique from each health sectors. Thus, a total of 4 PHC centers were picked (Alnawareah PHC, Alzaher PHC, Western Azizia PHC, and Aladel PHC). Then from each PHC we tacked according to the recorded number of patients attending antenatal care. As in Alnawareah, Alzaher recorded in antenatal care Aladel PHC has. In the last stage, the researcher had randomly chosen from each center by sampling technique versus convenience selection (sampling interval depended on the total number of women attending each one of the four selected centers).

Data collection tool

Data were collected using a self-administered questionnaire composed of three main sections.

The first part consists of socio-demographic data of the participants such as age, family income, education, current marital status, job and the number of children.

The second part includes questions regarding knowledge of EC use. Had been determined according to the woman's response to the question: “if a woman has unprotected sex, is there anything she can do in the first three days after intercourse that will prevent pregnancy ?” Those who answered “yes” were considered to know about EC, while those who answered “no” were considered uninformed about EC. For those who reported that they “didn’t know” or gave unclear answers were also considered uniformed about EC. Those who identified EC were asked “what can she do to prevent pregnancy and what is the correct timing for the use of that method? Had they ever used it previously? What is the risk of pregnancy at present in case of either using or not using contraception?”

Data collection technique

- The researcher distributed the questionnaire by herself while women were waiting for their appointments and care was taken not to disturb the work in the clinics.
- Three weeks were needed for data collection.
- The primary tool of the study was a self-administered questionnaire with a short covering message clarifying the goal of the research without mentioning names to guarantee confidentiality, and it included consent for participation.
- The researcher was available to explain all the issue and the questionnaires were collected at the same time.

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Pilot study

A pilot study was conducted on (10%) of the sample (25 women) in none of the selected PHC centers to test the questionnaire applicability and the methodology of the environment. The data from the pilot study were not included in the research.

Data entry and statistical analysis

Collected data entered into an own computer and analyzed using the SPSS version 24 with a significance of p-value < 0.05. Data were presented in the form of frequency and percentage and standard deviation showed continuous variables. Pearson's likelihood ratio chi-square test was used to test for the association between independent and dependent variables. (p-value of Shapiro-Wilk test<0.001).

Ethical considerations

- Permission from the Joint Program of Family Medicine in Makkah Al- Mokarramah was obtained.
- Approval from the research committee, public health and target center in Makkah Al-Mukarramah will obtain.
- A written consent (on the front page of the questionnaire) was obtained from each woman.
- All collected data were kept confidential and not used except for the scientific research.
- Ethical considerations were observed throughout the study.

Budget

Self- funded.

4. Results

The study included 300 women with a response rate of 100%.

Table 1 Descriptive of socio demographic characteristics of the participants (n=300)

	N	%
Age		
<25	102	34
25-35	84	28
>35	114	38
Range	20-48	
Mean±SD	33.188±7.321	
Marital status		
Currently married	237	79
Ever married	63	21
Number of children		
One	84	28
Two	111	37
More than two	105	35

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Occupation		
House wife	111	37
Teacher	132	44
Other	57	19
Educational level		
Primary school	45	15
High school	93	31
Graduated	120	40
Postgraduate	42	14
Income (Saudi Riyals/month)		
<5000	123	41
5000-10000	111	37
>10000	66	22

Table(1)showed that the only (38.0%)of the participated were >35 years while (34.0%)were(<25)years were Range 20-48 and Mean ±SD(33.188±7.321) , regarding the marital status Majority of them (79.0%) were currently married but the ever married were(21.0%), regarding the Number of children most of participant heave tow children were (37.0%) had more than two children were(35.0%), regarding the occupation the majority of participant teacher were (44.0%) followed by house wife's were (37.0%), regarding the Educational level the majority of participant graduated were (40.0%) followed by high school were (31.0%), regarding Income (Saudi Riyals/month) the most of participants <5000 were (41.0%) but the 5000-10000 were (37.0%).

Table 2 Descriptive Source of knowledge of the participants about the existence of a method to prevent pregnancy in case of un-protected sex

Source of knowledge of the participants about the existence of a method to prevent pregnancy in case of un-protected sex		
	N	**%**
Popular readings of articles science	39	13
Newspaper and periodicals	51	17
Network	45	15
Radio and TV	33	11
Classmates and friends	96	32
Course education	72	24
Family	102	34
The family planning professionals	45	15
Lectures	93	31

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Medical staff	99	33
Informal publication	81	27

Regarding the Source of knowledge of the participants about the existence of a method to prevent pregnancy in case of un-protected sex the majority of participant respectively family were(34.0%) followed by medical staff were (33.0%) , but Classmates and friends were(32.0%) while lectures were(31.0%) while informal publication were(27.0%) but Course education were (24.0%) but radio and TV were(11.0%) from newspaper and periodicals were (17.0%) while from The family planning professionals were (15.0%) ECIUD.

Table 3 Descriptive the Knowledge of the participants about the correct timing of emergency contraception

	N	%
What is the correct timing of EC?		
Pill (Within 5 days) (correct answer)	231	77
IUD (Within 5 days) (correct answer)	69	23
Total Knowledge regarding EC		
Yes	228	76
No	72	24
Ever using emergency contraception		
Yes	90	30
No	210	70
Importance of knowledge about contraceptive		
Yes	81	27
No	219	73
Responsibility for contraception		
Man	36	12
Woman	141	47
Both of them have responsibility	33	11
Both of them without responsibility	90	30
The priority consideration of choosing contraceptive methods		
Contraceptive effectiveness	81	27
The feeling of using contraceptive methods	99	33
The convenience of buying contraceptive tools	69	23
The safety of contraceptive methods	51	17
The side effects of Oral contraceptive pills		

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Affecting fertility	81	27
Affecting the regularity of the menstrual cycle	84	28
Risk of weight gain	63	21
Nausea/vomit	39	13
No side effects	33	11
Husband convenience of contraceptives methods		
Yes	201	67
No	99	33

Table 3 show the majority of the participants answer the correct timing of emergency contraceptive pill (Within 5 days) were (77.0%)while IUD (Within 5 days) were (23.0%) while Total Knowledge regarding emergency contraceptive the majority of participants answer Yes were (76.0%) while answer No were(24.05), regarding the ever using emergency contraception the majority of participants answer No were (70.0%), but answer Yes were (30.0%), regarding the Importance of knowledge about contraceptive the majority of participants answer No were (73.0%), but answer Yes were (27.0%), regarding the Responsibility for contraception the majority of participants answer women were (47.0%), but answer Both of them without responsibility were (30.0%), regarding the priority consideration of choosing contraceptive methods the majority of participants feeling of using contraceptive methods were (33.0%), but Contraceptive effectiveness were (27.0%), regarding the side effects of Oral contraceptive pills the majority of participants affecting the regularity of the menstrual cycle were (28.0%), but affecting fertility were (27.0%), regarding the Husband convenience of contraceptives methods the majority of participants answer Yes were (67.0%), but answer No were (33.0%)

Figure 1 Descriptive of total knowledge of the participants about the correct timing of emergency contraception regarding emergency contraception utilization

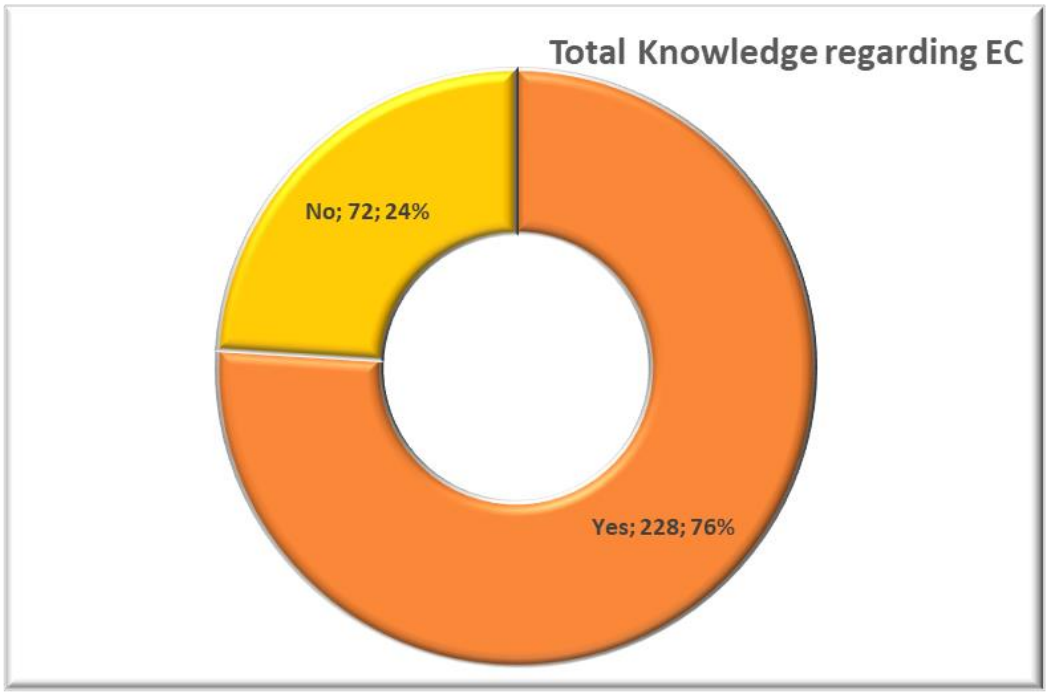

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Table 4 Descriptive of Demographic factors associated with knowledge regarding emergency contraception among the participants.

		Total		Yes		No		Chi-square	
		N	%	N	%	N	%	X^2	P-value
Age	<25	102	34	77	33.77	25	34.72	0.150	0.928
	25-35	84	28	63	27.63	21	29.17		
	>35	114	38	88	38.60	26	36.11		
Marital status	Currently married	237	79	217	95.18	20	27.78	149.827	0.000
	Ever married	63	21	11	4.82	52	**72.22**		
Number of children	One	84	28	47	20.61	37	51.39	27.344	0.000
	Two	111	37	89	39.04	22	30.56		
	More than two	105	35	92	40.35	13	18.06		
Occupation	House wife	111	37	74	32.46	37	51.39	8.702	0.013
	Teacher	132	44	109	47.81	23	31.94		
	Other	57	19	45	19.74	12	16.67		
Educational level	Primary school	45	15	13	5.70	32	44.44	54.630	0.000
	High school	93	31	73	32.02	20	27.78		
	Graduated	120	40	102	44.74	18	25.00		
	Postgraduate	42	14	31	13.60	11	15.28		
Income	<5000	123	41	84	36.84	39	54.17	9.244	0.010
	5000-10000	111	37	86	37.72	25	34.72		
	>10000	66	22	58	25.44	8	11.11		

Table 4 show regarding the age no significantly associated with knowledge about EC most of the participants in the age increased in >35 in Yes were (38.60) while in No were (36.11%) while total were(38.0%) while P-value=0.928 , X^2 0.150. Regarding the marital status heave significantly associated with knowledge about EC most of the participants increased in Ever married in No were (72.22%) while total (21.0%) while Currently married increased in Yes were (95.18%) while total were (79.0%) but P-value=0.000 , X^2 149.827. Regarding the Number of children a significantly associated with knowledge about EC most of the participants increased in more than two in the answer Yes were(40.35%) while total (35.0%) but in No increased in On were(51.39%) while total were (28.0%) but P-value=0.000 X^2 17.344. Regarding the occupation a significantly associated with knowledge about EC most of the participants increased in the teacher in Yes were(47.81%) while total (44.0%) but in No increased in the house wife were(51.39%) while total were (37.0%) but P-value=0.013 X^2 8.702, also regarding educational level a significantly associated with knowledge about EC most of the participants increased in Graduated in yes were (44.74) ,while total were(40.%) but Primary school increased in No were (44.44%) while total (15.0%) but P-value= 0.000 and X^2 54.630, regarding Income a significantly associated with knowledge about EC

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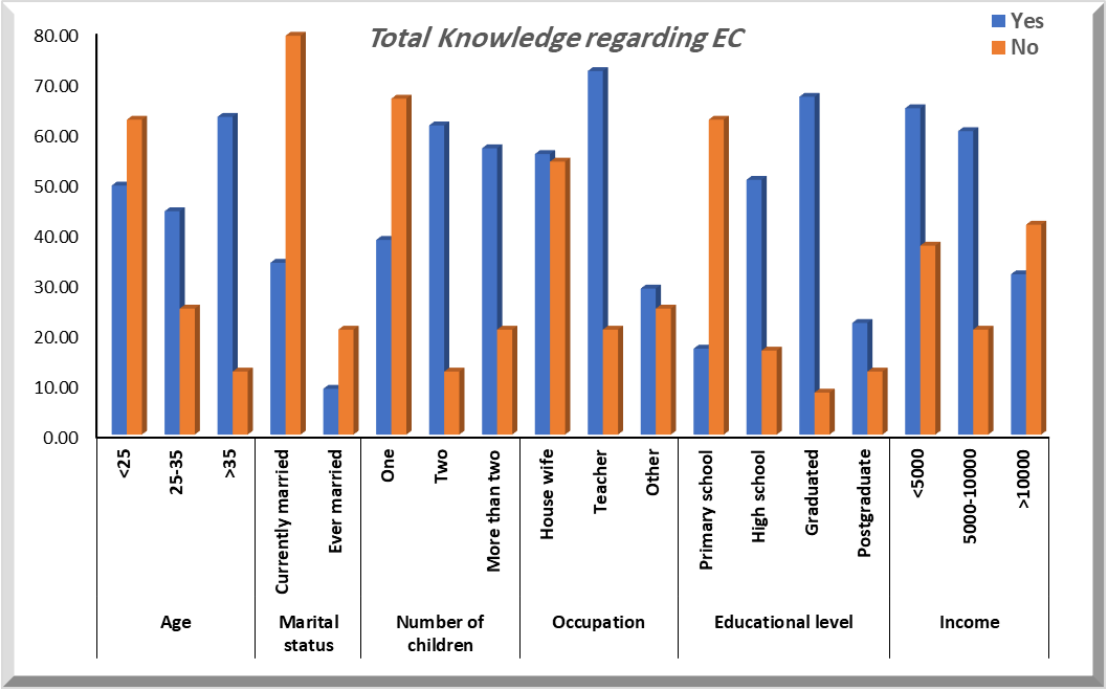
most of the participants increased in 5000-10000 in yes were (37.72) ,while total were(37.%) but <5000 increased in No were (54.17%) while total (41.0%) but P-value= 0.010 and X^2 9.244

Figure 2 Descriptive of Demographic factors associated with knowledge regarding emergency contraception among the participants



Discussion

Information regarding the women ` reproductive behavior in Saudi Arabia is relatively rare. Recently, a study carried out in Riyadh revealed a prevalence of unplanned pregnancy among women attending obstetric clinics as 12.3%.(26) So, unplanned pregnancy not uncommon problem in Saudi Arabia. Therefore, the aim of this study was to assessment the Effect of the Knowledge and attitudes of Emergency Contraception among Married Female attending in primary health care in Saudi Arabia 2022. If properly applied, emergency contraception could high prevalence prevent up to of unintended pregnancies and consequently reduce the rate of unsafe abortion and improve the overall women`s health.(27) Therefore, this study was conducted to better understand the knowledge, and utilization of emergency contraception as well as identify factors affecting them among women attending ante-natal clinics at primary health care centers in Makkah.

To apply emergency contraception successfully, there should be accurate knowledge of and positive attitude towards its methods.(28). In the present study, most of the participants in accordance with other studies carried out in Egypt and USA could recognize that there is a way to prevent pregnancy in case of having un-protected sex. Majority of them knew correctly the time of using emergency contraceptive pills or IUD. (23) These findings reflect great improvement of women`s awareness regarding reproductive health as since 4 years, a study carried out in Riyadh revealed that only 6.2% of women were aware of emergency contraception. Also, the high rate of EC awareness reported in the current study could be partially attributed to the fact that the high level of education of the participants in this study as more than thirds of them were at least university graduated .(29)

Different rates and patterns of emergency contraception awareness were reported internationally. In a study carried out in Pakistan, majority of women were not aware of emergency

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contraception.(30) Moreover, among those aware of emergency contraception, the correct timing of effectiveness of post-coital oral contraception was known only while none of these women were aware of the existence of Intra Uterine Contraceptive Device (IUCD) insertion as an option. In Nigeria, among non-medical undergraduates, slightly more than half of the students (51.6%) reported the awareness of emergency contraception. In India, Only 40.6% of the women had ever heard of emergency contraception and most of those (71.9%) who had heard of emergency contraception did not know the timeframe to use it.(28) We cannot compare the rate of emergency contraception awareness in the aforementioned studies with our study due to two main factors. First, their conduction at different times and more importantly, the variation in the demographic characteristics of the participants , mainly age and educational level as well as variation in cultural background of the participants.

Regarding the source of knowledge of the participants in this study about the existence of a method to prevent pregnancy in case of un-protected sex, Family was the commonest reported, followed by Medical staff or Classmates and friends. In another Saudi study carried out in Riyadh health care professionals were the least reported source of information regarding emergency contraception (6.6%). In Pakistan, the primary source of information about emergency contraception was the family physician or general practitioner.(24) In India, the most common sources of emergency contraception information were electronic media, friends and relatives, and health personnel.(30)Therefore, encouraging healthcare professionals, particularly physicians to have a role in educating women regarding emergency contraception is recommended in our community .

However, in another Saudi study carried out in Riyadh, possible health effects were the most common barriers to use emergency contraception, followed by religious concern.(1) they attributed this surprising finding to the rapid change in the Saudi community over the last decade, particularly women's education and alteration in fertility beliefs. In Kuwait, the main barriers were risks to their health or the baby's health or that it was abortifacient.(22) In non-Islamic countries, medical concern was the main barrier for utilizing emergency contraception. For example, in Canada, women perceived emergency contraception as an abortifacient, and they think that on long-term it will have adverse effects on health and fertility.(26) In India, the most common barrier for using emergency contraception was inadequate knowledge of it, it's perceived non-availability, considering it an abortion facing, and religious beliefs.(30) the results could be useful for health authorities to expand the reproductive health services and improving the contraception delivery systems in Makkah.

Conclusion

There is a need to popularize emergency contraception in Saudi Arabia for its better usage among women to avoid unwanted pregnancies and abortions, with the help of media, government health agencies and health care providers. There is an urgent need to educate the women about emergency contraception with emphasis on available methods and correct timing of use. Advanced provision and promotion of emergency contraceptives would very likely enhance its use as in developed countries. It is important to counsel women regarding the use of various methods of regular contraception and keep emergency contraception in reserve for emergency purpose only

References

1. Bellizzi, S., Mannava, P., Nagai, M., & Sobel, H. L. (2020). Reasons for discontinuation of contraception among women with a current unintended pregnancy in 36 low and middle-income countries. *Contraception*, *101*(1), 26-33.
2. Kantorová, V. (2020). Unintended pregnancy and abortion: what does it tell us about reproductive health and autonomy?. *The Lancet Global Health*, *8*(9), e1106-e1107.
3. Bearak, J., Popinchalk, A., Ganatra, B., Moller, A. B., Tunçalp, Ö., Beavin, C., ... & Alkema, L. (2020). Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990–2019. *The Lancet Global Health*, *8*(9), e1152-e1161.
4. Todd, N., & Black, A. (2020). Contraception for adolescents. *Journal of clinical research in pediatric endocrinology*, *12*(Suppl 1), 28.
5. Davis, P., Sarasveni, M., Krishnan, J., Bhat, L. D., & Kodali, N. K. (2020). Knowledge and attitudes about the use of emergency contraception among college students in Tamil Nadu, India. *Journal of the Egyptian Public Health Association*, *95*, 1-11.
6. Khooharo, Y., Iqbal, S., & Mahmood, M. (2019). Uterine Perforation Due To Unsafe Abortion: A Case Report. *Journal of Muhammad Medical College*, *10*(2), 67-69.
7. Fathalla, M. F. (2020). Safe abortion: The public health rationale. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *63*, 2-12.
8. Elnasr, I. S., Fahmy, M., Hamza, H., El-Fiqy, H. M., & Ammar, H. (2021). Intrauterine Device Versus Levonorgestrel As Emergency Contraception. Observational Study. *The Egyptian Journal of Hospital Medicine*, *82*(1), 1-5.
9. Fan, X., Huang, J., Xu, C., Bao, M., Xia, W., & Zhu, C. (2021). Differential expression of microRNAs in human endometrium after implantation of an intrauterine contraceptive device containing copper. *Molecular Human Reproduction*, *27*(9), gaab052.
10. H Ibrahim, W., M Maklof, E., & R Mohamed, R. (2022). Effect of educational program on knowledge and attitude of childbearing women about intrauterine cupper device as emergency contraceptive method. *Egyptian Journal of Health Care*, *13*(1), 99-113.
11. Dey, S., Das, D., Chakraborty, A., Roychoudhury, S., Choudhury, B. P., Choudhury, A. P., & Mandal, S. C. (2021). Plant-Based Traditional Herbal Contraceptive Use in India: Safety and Regulatory Issues. *Evidence Based Validation of Traditional Medicines: A comprehensive Approach*, 659-675.
12. Britton, L. E., Williams, C. R., Onyango, D., Wambua, D., & Tumlinson, K. (2021). "When it comes to time of removal, nothing is straightforward": a qualitative study of experiences with barriers to removal of long-acting reversible contraception in Western Kenya. *Contraception: X*, *3*, 100063.
13. Kumari, S., Sarkar, A., Kulshreshtha, A., Zangmo, R., & Roy, K. K. (2022). Exploring the Role of Levonorgestrel Intrauterine System (LNG-IUS) as a Method of Emergency Contraception (EC). *Cureus*, *14*(11).
14. Harish, K. M., Shwetha, N., & Nalini, N. (2021). Incidence and risk factors associated with ectopic pregnancy: a prospective study. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, *10*(2), 703-707.
15. Acuna, J. M. (2021). Non-hormonal Contraception. *Female and Male Contraception*, 59-89.

16. Demissie, T. W., Nigatu, A. M., & Beyene, G. M. (2020). Assessment of emergency contraceptives utilization and associated factors among female college students at Debre Tabor town. *Contraception and Reproductive Medicine*, *5*(1), 1-9.
17. Jumanah, A., Soliman, A., Abdul Aziz, A., Moodhi, A. M., & Sultan, A. (2018). Assessment of knowledge, attitude and practice towards family planning in Saudi Arabia, 2017.
18. Alsaedi, J. A., Alakel, S. M., Alalmaei, A. Z., Al-Mutairi, M. R., & Almutair, S. H. (2018). Assessment of knowledge, attitude and practice towards Family Planning in Saudi Arabia, 2017. *The Egyptian Journal of Hospital Medicine*, *70*(2), 345-348.
19. Quereishi, M. J., Mathew, A. K., & Sinha, A. (2017). Knowledge, attitude and practice of family planning methods among the rural females of Bagbahara block Mahasamund district in Chhattishgarh State, India. *Glob J Med Public Heal*, *6*(2), 1-7.
20. Bamufleh, R. A., Al-Zahrani, A. E., & Yousuf, S. A. (2017). Systematic review: Contraceptive knowledge and use in Saudi Arabia. *J Gynecol Obstet*, *5*, 69-77.
21. Karim, S. I., Irfan, F., Saad, H., Alqhtani, M., Alsharhan, A., Alzhrani, A., ... & MA Ahmed, A. (2021). Men's knowledge, attitude, and barriers towards emergency contraception: A facility based cross-sectional study at King Saud University Medical City. *Plos one*, *16*(4), e0249292.
22. El-Mowafi, I. M., & Foster, A. M. (2020). Emergency contraception in Jordan: Assessing retail pharmacists' awareness, opinions, and perceptions of need. *Contraception*, *101*(4), 261-265.
23. Hassan, S. I., El-Kurdy, R., Yousef, A. M., & Lamadah, S. M. (2020). The effect of an educational guidelines on childbearing women's knowledge, attitude and their intention regarding emergency contraceptive use. *Egyptian Journal of Health Care*, *11*(4), 816-831.
24. AbdElmoniem, S., & Abdelhakam, E. (2018). Effect of Emergency Contraception Guidelines Intervention on Women's Knowledge and Attitude. *Maternal and Newborn Health*, *5*, 1-28.
25. Thongnopakun, S., Pumpaibool, T., & Somrongthong, R. (2018). The effects of an educational program on knowledge, attitudes and intentions regarding condom and emergency contraceptive pill use among Thai female university students. *Journal of Health Research*, *32*(4), 270-278.
26. Abdulwahab, A., Almotairi, A., Alkhamis, W., & Almutiari, A. (2018). Prevalence of unplanned pregnancy and its psychological effect among pregnant patients in King Khalid University Hospitals. *The Egyptian Journal of Hospital Medicine*, *70*(6), 943-947.
27. World Health Organization. (2015). *Core competencies in adolescent health and development for primary care providers: including a tool to assess the adolescent health and development component in pre-service education of health-care providers*. World Health Organization.
28. Hailemariam, T. G., Tesfaye, T., Melese, T., Alemayehu, W., Kenore, Y., Lelamo, Y., ... & Seifu, C. N. (2015). Sexual experiences and emergency contraceptive use among female university students: a cross-sectional study at Wachamo University, Ethiopia. *BMC research notes*, *8*(1), 1-8.
29. Mishore, K. M., Woldemariam, A. D., & Huluka, S. A. (2019). Emergency contraceptives: knowledge and practice towards its use among Ethiopian female college graduating students. *International journal of reproductive medicine*, *2019*.
30. H Ibrahim, W., M Maklof, E., & R Mohamed, R. (2022). Effect of educational program on knowledge and attitude of childbearing women about intrauterine cupper device as emergency contraceptive method. *Egyptian Journal of Health Care*, *13*(1), 99-113.