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EVALUATE WOMEN AWARENESS ABOUT THE USE OF ORAL CONTRACEPTIVES IN THE EASTERN REGION OF SAUDI ARABIA

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ABSTRACT

Objectives: The aim of this study was to evaluate the knowledge of women who used oral contraceptive pills (OCPs) regarding to the compliance, the safety and the efficacy, also to find out the correlation between knowledge about the use of oral contraceptives with age, educational level and time of utilization. **Method:** This study was a cross-sectional study, conducted in the eastern region of Saudi Arabia for 2 months from the third of March to fifth of May 2016. The participants were women who aged from $\leq$ 20 to $\geq$ 40 years and who currently or previously used oral contraceptive pills (OCPs). A self-administered electronic questionnaire was used to evaluate their knowledge regarding. **Results:** Of 1004 women, the correlation coefficient (r) of the knowledge with the level of education was 0.001 and P Value 0.96, (r) of the age was - 0.003 with P Value 0.93 and (r) of the years of utilization was 0.001 with P Value 0.97. **Conclusion:** Most of the women who live in the eastern region of Saudi Arabia and taking OCPs had a poor knowledge of positive attitude related to missing pills, and if they experienced any episode of vomiting or diarrhea after taking the pill.

KEYWORDS: Awareness; Compliance; oral contraceptive pills; the eastern region; Saudi Arabia**.**

INTRODUCTION

Oral Contraceptive pills (OCPs) contain estrogen and progestin; other types of birth control pills have only progestin.

The OCPs become the most widely used method to prevent pregnancy.[1,2] In Saudi Arabia,

OCPs are available over-the-counter and the pharmacists become the main source of information. However, women tend to start oral contraceptives on their own due to high fertility rates, in the other hand OCPs usually provide very effective and reversible contraception and they have an excellent safety and tolerability profile.

Unfortunately, their efficacy is limited by lack of knowledge about correct usage. One of the best methods to improve OCPs outcomes is educating users on the proper use of OCPs by counseling. Adequate knowledge of oral contraceptive therapy can lead to reduce unwanted pregnancy, unnecessary follow-up visits and increase patient satisfaction.[3] Besides the efficacy and the knowledge, OCPs side effects and drug interactions and certain medical conditions, can increase the risk for adverse events and influence using of OCPs.

The aim of this study was to evaluate the knowledge of the women who used oral contraceptive pills (OCPs) regarding to the compliance, the safety and the efficacy, also to find out the correlation between knowledge about the use of oral contraceptives with age, educational level and time of utilization.

METHOD

Study design

This study was a community-based, cross-sectional study, conducted in the eastern region of Saudi Arabia for 2 months from the third of March to fifth of May 2016.

The current study was carried out on 1014 participants aged from $\leq$ 20 to $\geq$ 40 years.

Participating women asked through a self-administered electronic questionnaire.

Questionnaire

The questionnaire was uploaded via Google drive and distributed through social media, which was available in the Arabic language.

A structured questionnaire (Table 1) consisted of three sections (**I**) demographic characteristics of participating women, (**II**) participants 'medical conditions, source of the health instructions, oral contraception currently used and experienced side effects, other medications concurrently used with OCPs and (**III**) assessing the Knowledge and attitudes regarding to the OCPs related to missing pills, vomiting, diarrhea, and reading pamphlet, most of the questions were close ended. Ten women excluded due to incomplete data, and the

others they use other contraceptive methods.

Table 1 : Survey Questions
Section (I)
Age
Marital status
Educational level
Breastfeeding
When do you use OCPs ?
Years of OCPs taken
Section (II)
Medical conditions of participating woman
Source of the health instructions
Side effects related to the use of oral contraceptives
Oral contraception currently used
Medications concurrently used with oral contraceptives
Other methods of contraception currently used
Why do you chose OCPs as a method of contraception?
Do you think that oral contraceptives may cause breast cancer in long-term use?
Percentages of pregnancy prevention by using oral contraceptives
Section (III)
Assessing the Knowledge of the correct use of the OCPs related to missing pills, vomiting, diarrhea 1.**If you miss the dose for less than 12 hours** 2.**If you miss the dose for more than 12 hours** 3.**If you experience vomiting within 2 hours of taking an OCP** 4.**If you experience vomiting or diarrhea for more than 12 hours after taking OCP** **5. Do you usually read drug's pamphlet?**
OCPs : oral contraceptive pills

Statistical analysis

Statistical analysis was performed by using Statistical Package of the Social Sciences version 21 (SPSS 21).

Pearson Correlation test used to find correlation between demographic characteristics and the correct Knowledge about the use of the OCPs, Knowledge score consists of five items related to missing pills and if they experience vomiting and diarrhea after taking the pill. All the items are multiple-choice questions. A score value of (1) for each correct response. Score (0) for the wrong answer. The total knowledge score is five.

The P-value ≤ 0.05 considered as a significant difference, other values presented as a percentage.

RESULTS

The overall response to this question was very positive.1014 women answered the questions between the third of March to the fifth of May 2016.

The baseline characteristics of the 1014 participants in the questionnaire are shown in Table 2.

Table 2 : baseline Characteristics	n %
1.Age (years)	
<20	33 (3.3%)
20-29	703 (70%)
30-39	244 (24.3%)
≥40	24 (2.4%)
2.Marital status	
Married	995 (99.15%)
Single	9 (0.9%)
3.Educational level	
Primary school	12 (1.2%)
Intermediate school	45 (4.5%)
High school	362 (36.1%)
Bachelor	558 (55.6%)
Post graduate (Master, PhD , ... etc)	27 (2.7%)
4.Breastfeeding	
Yes	180 (17.9%)
No	824 (82.1%)
5. When do you use oral contraceptives ?	
After the marriage before the first pregnancy	180 (17.9%)
After the first delivery	528 (52.6%)
After the second delivery	181 (18%)
After the third delivery	115 (11.5%)
6. How long did you use oral contraceptive pills?	
< 1 year	375 (37.4%)
1 year	162 (16.1%)
2 years	170 (16.9%)
3 years	123 (12.3%)
≥4	174 (17.3%)
Total = 1004(100%)	

Of the 1014 women who completed the questionnaire, (3.3%) were under 20 years old, (70%) were aged between 20 to 29, (24.3%) were aged between 30 to 39 and (2.4%) were aged 40 or over. Most of the participants (99.15%) were married.

Over half of the participants (55.6%) had Bachelor degree, (36.1%) had completed a high school, (4.5%) had completed intermediate school, (2.7%) had a master or PhD degree and

only (1.2%) had completed primary school. Nearly (82%) of the participants were not breastfeeding while (17.9%) were breastfeeding.

When the participants were asked: 'When do you use oral contraceptives?' they indicated that (17.9%) used OCPs after the marriage before the first pregnancy, (18%) used OCPs after the second delivery, (11.5%) used OCPs after the third delivery and (52.6%) used OCPs after the first delivery.

In response to the question: 'How long did you use OCPs?', (37.4%) of the participants used OCPs for less than one year, (16.1%) used OCPs for one year, (16.9%) used OCPs for two years, (12.3%) used OCPs for three years and (17.3%) used OCPs for four years or over.

Knowledge of the correct attitude toward the use of OCPs was evaluated by the answers to five questions.

Table 3 : Percentage of the correct attitude toward the use of OCPs	
1. If you miss the dose for less than 12 hours	
Know the correct action " Take it as soon as I remember, and I take the next pill as scheduled "	**735 (73.2%)**
Did not know the correct action	**269 (26.7%)**
2. If you miss the dose for more than 12 hours	
Know the correct action " Take it as soon as I remember, I take the next pill as scheduled and Use an extra protection (e.g. condom) for the next 7 days "	**60 (5.9%)**
Did not know the correct action	**944 (94%)**
3. If you experience vomiting within 2 hours after taking the pill	
Know the correct action " I take the next pill as scheduled "	**94 (9.4%)**
Did not know the correct action	**910 (90%)**
4. If you experience vomiting or diarrhea for more than 24 hours after taking the pill	
Know the correct action " Take it as soon as I remember, I take the next pill as scheduled and Use an extra protection (e.g. condom) for the next 7 days "	**13 (1.3%)**
Did not know the correct action	**991 (99%)**
5. Do you usually read drug's pamphlet ?	
Yes	**558 (55.6%)**
No	**120 (12%)**
Not always	**293 (29.2%)**
OCPs : oral contraceptive pills Total = 1004 (100%)	

Table 3**.** is shown the compliance to daily pill taking, (73.2%) of the participating women knew that they needed to take the missed pill as soon as they remember and take the next pill as scheduled if they forgot to take one pill less than 12 hours. In the other hand, only a few participants (5.9%) knew that they needed to take the missed pill as soon as they remember, and take the next pill as scheduled and use extra protection if they forgot to take one pill more than 12 hours.

Of 1014 Only (9.4%) knew that they needed to take the missed pill as soon as they remember, and take the next pill as scheduled if they experienced vomiting within 2 hours of taking an OCPs and (1.3%) of women Knew the correct action if they experienced vomiting or diarrhea for more than 24 hours after taking OCPs and 55.6% of the participants usually read the drug's pamphlet.

Table 4 . Relationship between knowledge score and demographic characteristics

Variables		**Spearman rank correlation**
Knowledge score	**Level of education**	**r** = 0.001 **P** = 0.96
	Age	**r** = - 0.003 **P** = 0.93
	Years of OCPs utilization	**r** = 0.001 **P** = 0.97

r : The correlation coefficient **OCPs :** Oral contraceptive pills

Table 4, is shown that:

1. The calculated correlation coefficient (r) of the level of education was 0.001 with P Value 0.96
2. The calculated correlation coefficient (r) of the age was - 0.003 with P Value 0.93
3. The calculated correlation coefficient (r) of the years of utilization was 0.001 with P Value 0.97

So the variables had no or neglectable correlation

P values of all of the variables were > 0.05 so correlation was not statically significant.

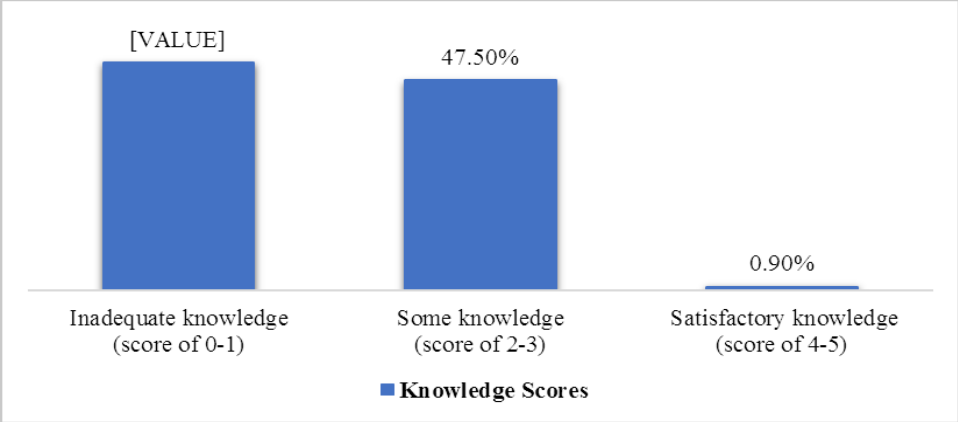

Figure 1: Participants' knowledge score out of 5 on oral contraceptives use, most of women had inadequate knowledge. A large proportion of the women (51.60%) had inadequate knowledge (score of 0–1) about OCPs use. Only 0.90% had satisfactory knowledge (score of 4–5).

Medical conditions of participating woman

The choice of OCPs depends on the medical of women so they need to be tested before using OCPs to prevent any serious medical conditions.

Migraine headache was the most common medical conditions that participating women had n=49 (4.9%), followed by hypertension n=27(2.7%), dyslipidemia n=25 (2.5%), thyroid dysfunction n=18 (1.8%), diabetes mellitus n=12 (1.2%), deep vein thrombosis n=7 (0.7%), obesity n=5 (0.5%),1 (0.1%) heart attack and 1 (0.1%) had Breast cancer while n= 72 (0.72%) had other diseases.

Side effects related to the use of oral contraceptives

The most common side effects reported by women were Headache n=453 (45.1%) followed by emotional changes n= 446 (44.4%), hair lose n=391 (38.9%), depression n= 368 (36.7%), weight gain or appetite increase n= 347 (34.6%), nausea n= 257 (25.6%), stomach pain n=151 (15%), breast tenderness n= 88 (8.8%), facial acne n= 85 (8.5%), brown spots in the face n=74 (7.4%), increase in body hair n= 69 (6.9%), abnormal vaginal bleeding n=46 (4.6%) and other side effects n=14 (1.4%).

Oral contraception currently used by the participating women

Marvelon was the most commonly used by women n=414 (41.1%), followed by Gynera n=378 (37.6%), Yasmin n= 182 (18.1%), Dian n= 79 (7.9%), Cerazette n=74 (7.4%) as shown in (Table.5) and (Fig.2).

Table 5. Brand names of OCPs	n (%)
Gynera (Gestodenone / ethinyloestradiol)	378 (37.6%)
Breastfeeding	**Yes**: 61 (16.1%) **No**: 317 (83.9%)
Marvelon (ethinyloestradiol/desogestrel)	414 (41.1%)
Breastfeeding	**Yes**: 58 (14%) **No**: 356 (86%)
Dian (ethinyloestradiol/cyproterone)	79 (7.9%)
Breastfeeding	**Yes**: 11(13.9%) **No**: 68 (86%)
Cerazette (desogestrel)	74 (7.4%)
Breastfeeding	**Yes**: 42 (56.7%) **No**: 32 (43%)
Yasmin (ethinyloestradiol/drospirenone)	182 (18.1%)
Breastfeeding	**Yes**: 28 (15%) **No**: 154 (84.6%)
Other oral contraceptives	24 (0.24%)
Breastfeeding	**Yes**: 7 (0.07%) **No**: 18 (0.18%)
Total = 1004	

Methods of contraception currently used or previously used by participating women

Among the 1014 women who used OCPs, the most frequently used current or previous methods were isolation n= 170 (16.9%), followed by condom n=129 (12.8%), IUD n=57 (5.7%), patches n=21 (2.1%), vaginal rings n=6 (0.06%).

Source of the health instructions

More than three quarters of the participants showed that the doctor n= 725 (72.2%) was the main source of information related to OCPs, followed by family n= 286 (28.5%), pharmacist n= 146 (14.5%), friends n= 108 (10.7%) and internet n=99 (9.9%).

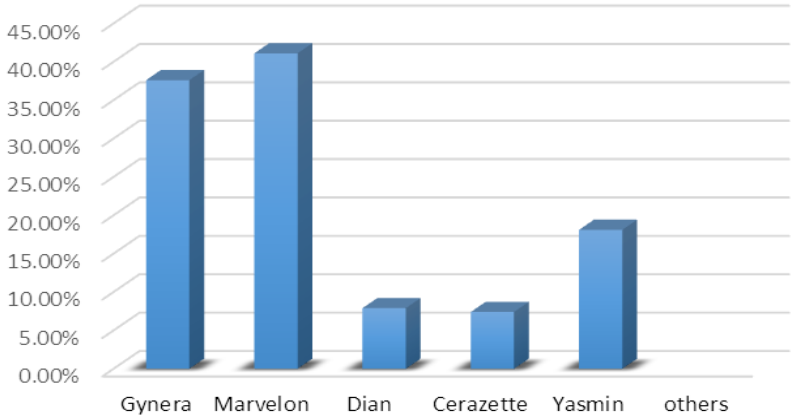

Figure 2: Oral contraception currently used by the participants.

Attitude toward using of oral contraceptives during breastfeeding

Some of the lactating women used combined OCPs during breastfeeding, Gynera n=61 (16.1%), Marvelon n= 58 (14%), Dian n=11(13.9%), Yasmin n=28 (15%), other oral

contraceptives n=2 (0.02%) which can suppress milk production, while others were aware of using progestin-only pills during breastfeeding such as Cerazette n=42(56.7%) and n=4 (0.04%) from other oral contraceptives as is shown in (Table 3).

Do you think that oral contraceptives may cause breast cancer in long term use ?

Only 308 (30.7%) of the participants thought that OCPs may cause breast cancer in long-term use.

Reasons for choosing OCPs as a method of contraception

Most of the participants preferred OCPs as a method of contraception due to their effectiveness n= 67 (6.7%), they were easy to use n= 557 (55.5%), they had a low cost n= 38 (3.8%) and they had fewer side effects compared to the other contraceptive methods n= 33 (3.3%).

Medications concurrently used by the participants

Drug-drug interactions were checked by using lexi.com, there were some interactions between OCPs and theophylline n= 2 (0.2%), analgesics n= 2 (0.2%), thyroxine n= 5 (0.5%), carbamazepine n= 4 (0.4%), phenobarbital n= 2 (0.2%) and antibiotic n= 1(0.1%).

Percentage of pregnancy prevention by using oral contraceptives

Most of the women n= 738 (73.5%) thought that OCPs were 90-99% effective at preventing pregnancy.

DISCUSSION

Adequate knowledge of oral contraceptive therapy can lead to reduce the risk of unwanted pregnancy, unnecessary follow-up visits and increase patient satisfaction.[3]

The knowledge of 1004 Saudi women in the eastern region of Saudi Arabia regarding OCPs based on their baseline characteristics was evaluated through a self-administered electronic survey.

According to the percentage of the correct attitude toward to missing pills, vomiting, diarrhea showed that 73.2% of the participating women Knew the correct action if they forget to take one pill less than 12 hours. In the other hand, only few participants (5.9%) Knew the correct action if they forget to take one pill more than 12 hours. Only (9.4%) knew the correct action if they experienced vomiting within 2 hours of taking a OCPs. Only (1.3%) of women Knew

the correct action if they experienced vomiting or diarrhea for more than 24 hours after taking OCPs.

In agreement with the results of this study, Ghadeer K. study which conducted in Riyadh[1] they found that "Most (79%) knew to take an extra pill if they missed one in less than 12 hours, but only 6.5% knew they also had to use an extra protection for the next 7 days if it was more than 12 hours. Few are aware of the action if they experienced diarrhea for more than 12 hours (10%) or vomiting within 2 hours (13.5%) of taking OCPs.

Regarding to the side effects, the headache was the most common side effect which experienced by women n=453 (45.1%) followed by Emotional changes n= 446 (44.4%).

In agreement with the results of this study, Rehab Mohamed Elgharabawy study[4] which conducted in Al-Qassim region, they found that "The most common complications identified by women were the headache (27.12%), followed by emotional change (27.12%)".

The most common contraceptive method currently or previously used in this study was isolation n= 170 (16.9%) followed by condom n=29 (12.8%), IUD n=57 (5.7%), in the contrast study Samira M. Mahboub, which showed that "(78.3%) of women preferred pills and (20.2%) used an intrauterine device".[5]

The current study found that more than three-quarters of the participants n= 725 (72.2%) stated that the doctor was the main source of information related to OCPs and more than half of participants 558 (55.6%) read the drug's pamphlet so this was a positive attitude toward using of OCPs.

In this study some of lactating women are using of combined OCPs during breastfeeding, Gynera n=61 (16.1%), Marvelon n= 58 (14%), Dian n=11(13.9%), Yasmin n=28 (15%), other oral contraceptives n=2 (0.02%). combined OCPs may reduce breast milk production during breastfeeding so that can negatively affect infant growth.

CONCLUSION

In general, most of the women who live in the eastern region of Saudi Arabia had a poor awareness toward the use of OCPs. There is a significant need for proper methods that can raise the awareness around the correct use of OCPs such as an appropriate verbal counseling by the physicians and the pharmacists, more educational campaigns need to be organized to

educate women about the proper use of OCPs, and simplified educational leaflets, so that can improve the adherence, prevent unwanted pregnancies and decrease the risk for adverse events and complications.

Limitations

The main limitation of the present study was that, it was a questionnaire-based cross-study, which depended mainly on the recall of the participants so that did not provide an accurate data. Furthermore, there were women who used OCPs and they did not use social media.

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