

Oral Contraceptive Pills use and adverse effects

Mai Alsayed Mahmoud Kotb^{*1}, Hosnia M. Ragab², Youssef Abo Elwan³, Yasmin Hussein Hassan Hussein⁴

Departments of ¹Family Medicine in Ministry of Health and Population, Egypt

Departments of ²Puplic Health, ³Gynecology and ⁴Family Medicine, Faculty of Medicine – Zagazig University, Egypt

*Corresponding author: Mai Alsayed Mahmoud Kotb, Mobile: (+20)01152700997, Email: drmaikob87@gmail.com

ABSTRACT

Background: Egyptian women value contraceptive methods for their effectiveness against pregnancy.

Objective: This study aimed to determine the usage and side effects of oral contraceptive pills among the target group.

Patients and methods: A cross-sectional study was carried out on 350 women from family health centers and units in Abo Hammad District, Sharkia Governorate. Data were collected through a questionnaire

Results: Majority (81.1%) of the studied group used combined pills The most frequent side effects found among them were depression, breast pain & inflammation, weight gain and abnormal vaginal secretions (63.7%, 57.7%, 56.6% & 56.3% respectively).

Conclusion The present study revealed that prevalence of pills usage among 350 studied females in Abo Hammad District, Sharkia Governorate was 62.9%. The prevalence of combined pills was 81.1% and Mini pills was 18.9%.

Keywords: Contraceptive, Depression, Side effects, Biomarkers

Introduction:

Contraception is a common practice among women during their childbearing period⁽¹⁾. Oral contraceptive pills are widely available and accepted in Egyptian society⁽²⁾. Over 100 million women currently use oral contraceptive pills worldwide⁽³⁾. There are three types of oral contraceptive pills: combined estrogen-progesterone (cocs), progesterone only (pops) and the continuous or extended use pill. The birth control pill is the most commonly prescribed form of contraception in the US. Approximately 25% of women aged 15-44 who currently use contraception reported using the pill as their method of choice. The most commonly prescribed pill is the combined hormonal pill with estrogen and progesterone⁽⁴⁾.

This study aimed to determine the usage and side effects of oral contraceptive pills among the target group.

PATIENTS AND METHODS

This study is a cross-sectional study that was done on 350 women. The study was carried out in Family Health Centers and Units in Abo Hammad District, Sharkia Governorate.

Inclusion criteria: Married women in child bearing period (19-49) years old those use oral contraceptive pills (OCPs) during the last six months.

Exclusion criteria: Married women with chronic disease e.g., diabetes mellitus, hypertension or cardiac diseases.

All subjects were subjected to the following: Detailed history taking (with special emphasis on: Name, age, marital state, gravity and parity, menstrual history, obstetric history, past history of any medical problems and family history.

Contraceptive pills usage: Pattern of OCPs use, duration of OCPs taken, types of OCPs (mini pills or combined), OCPs efficacy, OCPs safety, benefits of OCPs and action when forgot one pill. Prophylactic check-ups performed: Breast self-examination, cytology mammography, laboratory blood test, chest X-ray, ultrasonography of the female reproductive organs, blood pressure measurement and other breast ultrasound. Asking about side effects of oral

contraceptive pills including pregnancy on use, abnormal discharge, bleeding and dysmenorrhea, weight gain, back pain, headache, diarrhea, loss of vision, bad breath, depression, nausea, lumps in breast, abnormal vaginal bleeding, sore throat and tender or sore breast.

Ethical consent:

An approval of the study was obtained from Zagazig University Academic and Ethical Committee. Every patient signed an informed written consent for acceptance of the study. This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

Statistical analysis

The collected data were coded, processed and analyzed using the SPSS (Statistical Package for Social Sciences) version 22 for Windows® (IBM SPSS Inc., Chicago, IL, USA). Data were tested for normal distribution using the Shapiro Walk test. Qualitative data were represented as frequencies and relative percentages. Chi square test (χ^2) was used to calculate difference between two or more groups of qualitative variables. Quantitative data were expressed as mean \pm



This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY-SA) license (<http://creativecommons.org/licenses/by/4.0/>)

SD. Independent samples t-test was used to compare between two independent groups of normally distributed variables (parametric data). P value ≤ 0.05 was considered significant.

RESULTS

350 females using contraceptive pills were included in the study. This table showed that the age of the studied group ranged from 22 to 49 years with mean

of 33.33 years. More than one third of them had university & post university education (36%) and about one third of studied group (30.3%) are working. Also, nearly one third of their husbands (31.4%) had university & post university education and 94.6% of the husbands were working. Finally, regarding social class 53.1% were low, 34% were moderate and 12.9% were high in social class (Table 1).

Table (1): Socio-demographic characteristics of the studied group (n =350)

Demographic characteristics		(n=350)	
Age (years)	$\bar{x} \pm SD$	33.33 \pm 6.84	
	Range	22 - 49	
	Variable	No	%
Education	Illiterate, read & write	51	14.6
	Middle & high school	173	49.4
	University & post university	126	36
Occupation	Not working	244	69.7
	Working	106	30.3
Husband education	Illiterate, read & write	33	9.4
	Middle & High school	207	59.2
	University & Post university	110	31.4
Husband occupation	Not working	19	5.4
	Working	331	94.6
Socioeconomic class	Low	186	53.1
	Moderate	119	34
	High	45	12.9

Table (2) showed that about two thirds (70%) of the studied group had menarche at age > 14 years and 64 % had the menses from 3 to 5 days. Frequency of spotting of blood between periods and after intercourse was 24.3 & 4.9% respectively. Majority of the studied group (92.6%) had pain associated with periods. The pain severity was mild to moderate in half of the women (52%).

Table (2): Menstrual history among the studied group

Variable		(n=350)	
		No	%
Age of menarche (years)	11 – 13	105	30
	>14	245	70
Duration of Menstruation (days)	3 – 5	225	64.3
	6 – 8	125	35.7
Spotting or bleeding between periods	No	265	75.7
	Yes	85	24.3
Spotting or bleeding after intercourse	No	333	95.1
	Yes	17	4.9
Dysmenorrhea	No	26	7.4
	Yes		
Pain severity	Mild to moderate	182	52
	Sever	142	40.6

This table showed that about two thirds (64%) of the studied group got pregnant 3 or more times and almost half of them (47.7%) had history of abortion and about two thirds of them had 1to 2 children (65.1%). Frequency of last delivery by CS was 78.9% .Frequency of breast feeding among the studied group was 80%. Almost quarter (22.9%) of them had history of previous gynecological surgery (mostly was D & C) as shown in table (3)

Table (3): Obstetrical and gynecological history among the studied group

Variable		(n=350)	
		No	%
Number of pregnancy	<3	126	36
	≥3	224	64
Abortion	No	183	52.3
	Yes	167	47.7
Number of child	1-2	228	65.1
	≥3	122	34.9
Last delivery	NVD	74	21.1
	CS	276	78.9
Breast feeding	No	70	20
	Yes	280	80
Previous gynecological surgery	No	270	77.1
	D & C	34	9.7
	Hysteroscopy	14	4.1
	IVF	5	1.4
	Ovarian cyst	20	5.8
	Hernia	7	2

NVD: normal vaginal delivery

CS: cesarean section

Table (4) showed that about two thirds (62.9%) of the studied group were current user of OCP and quarter (24.9%) of the studied women were using use pills for 5 or more years. Majority (81.1%) of the studied group used combined pills. More than half of them (58.6%) knew the right action when missed 1 pill and 80.9% seek medical advice after one to two missed periods. Almost half of the studied women (48.3%) find OCP safe and quarter of them (25.1%) find OCP very effective. Finally, 82.6% of them agreed with that Benefits of the pills outweigh its risk to health.

Table (4): Contraceptive pills usage among the studied group

Variable		(n=350)	
		No	%
Pills usage	Present	220	62.9
	Previous	130	37.1
Duration of use (years)	<5	263	75.2
	≥5	87	24.8
Type	Mono	66	18.9
	Combine	284	81.1
Action when forget 1 pill	Right answer	205	58.6
	Wrong answer	145	41.4
How many missed periods to make you stop pills and call doctor	1-2	283	80.9
	≥3	67	19.1
OCP safety	Safe	169	48.3
	Dangerous	181	51.7
OCP efficacy	Effective	88	25.1
	Moderately effective	196	56
	Slightly effective	66	18.9
	Not effective	0	0
Benefits of the pills outweigh its risk to health	Agree	289	82.6
	Disagree	61	17.4

Table (5) showed that most frequent examinations were done by the studied groups were measuring blood pressure, CBC & breast self-examination (62.3%, 48% & 43.1% respectively). Also most frequent complications found among them were depression, breast pain, inflammation, weight gain and abnormal vaginal secretions (63.7%, 57.7%, 56.6% & 56.3% respectively).

Table (5): Self-examination and pills side effects among the studied groups

Variable		(n=350)	
		No	%
Investigation	Breast self-examination	151	43.1
	Mammography	51	14.6
	CBC	168	48
	Measuring blood pressure	218	62.3
	Pelvic US	77	22
	Other	46	13.1
Side Effects	Depression	223	63.7
	Breast pain (tenderness)	202	57.7
	Weight gain	198	56.6
	Abnormal vaginal secretions	197	56.3
	Osteoarthritis	194	55.4
	Headache and back pain	185	52.9
	Hypertension	155	44.3
	Bleeding	140	40
	Nausea	124	35.4
	Breast mass	89	25.4
	Bad mouth odor	46	13.1
	Unplanned pregnancy	28	8
	Diarrhea	27	7.7
	Clotting formation	12	3.4

DISCUSSION

The oral contraceptive pill is the most commonly used contraceptive method among young women worldwide. An extensive body of evidence has established that oral contraceptives protect women against somatic conditions that may affect their quality of life: dysmenorrhea, menorrhagia, menstrual cycle irregularities, iron deficiency anaemia, ectopic pregnancy, pelvic inflammatory disease, ovarian cysts, benign breast disease, endometrial cancer and ovarian cancer (5).

In the current study, more than two thirds (70%) of the studied group had menarche at age ≥ 14 years, which is similar to the results in the study done by **Eshak** (6) in Egypt who found that the mean age at menarche was 13.4 y. In the study done by **Grandi et al.** (7), in Italy who studied 40 patients, the mean age at menarche was 12.84 ± 1.95 y. In a study done in Sweden, by **Kristjánsdóttir et al.** (5), the mean age of menarche was 12.9 ± 1.3 y.

In the present study, the length of menses was 3 to 5 days among (64.3%) of the studied cases, which

agrees with **Grandi et al.** (7) who studied pelvic pain and quality of life of women with endometriosis during oral contraceptive and found the mean length of menses was 5.53 ± 2.19 days

As regards spotting or bleeding after intercourse, there were 4.9% of the studied cases had spotting or bleeding after intercourse. This is near to the results in the study done by **Talaat et al.** (8) who studied 80 women divided into two groups: Group I included 40 women on combined oral contraceptives [COC] and group II included 40 women on hormonal intrauterine device. They found that 3.7% of the women on combined oral contraceptives [COC] had bleeding after intercourse. **Wiebe et al.** (9) reported that, sexual function could be improved by estradiol.

In this study, Majority of the studied group (92.6%) had dysmenorrhea. This coincides with **Grandi et al.** (7) who found that 57.9% of their studied cases had dysmenorrhea

Regarding the menstrual pain severity, it was mild to moderate in half of the women (52%), which is near to the results in the study done by **Kristjánsdóttir et al.** (5) who studied 431 female on oral contraceptive pills and found that 35.3% of the studied cases had regular menstrual pain.

In regard to number of pregnancy, about two thirds (64%) of the studied group got pregnant 3 or more times and almost half of them (47.7%) had history of abortion. This disagrees with **Grandi et al.** (7) who studied pelvic pain and quality of life of women with endometriosis during oral contraceptive. They found that most of their studied cases got pregnant one time and 40% of their studied cases had history of abortion. Perhaps the discrepancy between the results of the previous study and our results may be attributed to the population characteristics.

In the present study, 37.1% of the studied cases had previous use of pills, which is relatively higher than that in the study done by **Kristjánsdóttir et al.** (5) who studied 431 female on oral contraceptive pills. They found that 19.3% of the studied cases had previous use of pills. This discrepancy may probably due to the ease of use of the contraceptive pill, so it is easy to stop it when there is a need for pregnancy, and it can be used without consulting the doctor.

Concerning side effects, 63.7% of the studied cases had depression, which agrees with **Lundin et al.** (10) who stated that the findings were driven by a subgroup of women who clearly suffered from COC-induced depression. A recent Danish nationwide prospective cohort study by **Skovlund et al.** (11) suggested that all types of hormonal contraceptive use are associated with an increased risk of depression and antidepressant treatment, especially in women aged 15–19 years.

In this study, 56.6% of the studied females complained from weight gain as side effect to oral contraceptive pills, which agrees with the results in the

study done by **de Wit *et al.***⁽¹²⁾ who studied 1010 female on oral contraceptives and found that hypersomnia, eating problems, and increased crying were the most common complaints of their studied cases.

Study Limitations: Long distance between health units and centers present in Abo Hammad and villages around it was a hindrance. So, we used special means of transportation to facilitate the process of moving between units.

CONCLUSION

Egyptian women value contraceptive methods for their effectiveness against pregnancy. The present study revealed that the majority of the studied group 81.1% were using combined pills. Also, the most frequent complications found among them were depression, breast pain, inflammation, weight gain and abnormal vaginal secretions (63.7%, 57.7%, 56.6% & 56.3% respectively). Therefore, follow up of females with oral contraceptive provide a new strategy to more aggressive treatments for high-risk groups of side effects.

RECOMMENDATIONS

(1) Counseling for proper usage of contraceptive pills, the action when forget one or more pill and regular physical examination. (2) Early diagnosis and management of side effects among women on contraceptive pills. (3) Training programs for health care providers for counseling about contraceptive pills in Family Health Units.

Financial support and sponsorship: Nil.

Conflict of interest: Nil.

REFERENCES

1. **Hassanin A, El-Halwagy A, Ismail N *et al.* (2018):** A study of the impact of the commonly used female contraceptive methods in Egypt on female sexual function. *Journal of sex & Marital Therapy*, 44 (6): 605-612.
2. **Wynn L, Hafez H, Ragab A (2014):** Social class and sexual stigma: local interpretations of emergency contraception in Egypt. In *Critical Issues in Reproductive Health*. Springer, Dordrecht. Pp: 85-102.
3. **Yu A, Giannone T, Scheffler P *et al.* (2014):** The effect of oral contraceptive pills and the natural menstrual cycle on arterial stiffness and hemodynamic (CYCLIC). *Journal of Hypertension*, 32 (1): 100-107.
4. **Cooper D, Mahdy H (2019):** Oral contraceptive pills. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing. <https://pubmed.ncbi.nlm.nih.gov/28613632/>
5. **Kristjánsdóttir J, Sundelin C, Naessen T (2018):** Health-related quality of life in young women starting hormonal contraception: a pilot study. *European Journal of Contraception and Reproductive Health Care*, 23: 171-178.
6. **Eshak E (2020):** Myths about modern and traditional contraceptives held by women in Minia, Upper Egypt. *EMHJ.*, 26: 1-9.
7. **Grandi G, Xholli A, Napolitano A *et al.* (2015):** Pelvic pain and quality of life of women with endometriosis during quadriphasic estradiol valerate/dienogest oral contraceptive: a patient-preference prospective 24-week pilot study. *SAGE Journal*, 22: 626-632.
8. **Talaat A, Oun A, Ayad W (2020):** Study of Sexual Dysfunction among Females with Combined Oral Contraception [COC] versus Intrauterine Hormonal Device. *International Journal of Medical Arts*, 2 (3): 639-644.
9. **Wiebe E, Trouton K, Dicus J *et al.* (2010):** Motivation and experience of nulliparous women using intrauterine contraceptive devices. *Women's Health*, 32: 335-338.
10. **Lundin C, Danielsson K, Bixo M *et al.* (2017):** Combined oral contraceptive use is associated with both improvement and worsening of mood in the different phases of the treatment cycle—a double-blind, placebo-controlled randomized trial. *Psychoneuroendocrinology*, 76: 135-143.
11. **Skovlund C, Mørch L, Kessing L *et al.* (2016):** Association of hormonal contraception with depression. *Women's Mental Health*, 73: 1154-1162.
12. **de Wit A, Booij S, Giltay E *et al.* (2020):** Association of use of oral contraceptives with depressive symptoms among adolescents and young women. *JAMA Psychiatry*, 77: 52-59.