

# Assessment of Combined Oral Contraceptive Pill Side Effects among Women Attending Maternal Child Health Centers in Erbil

Jawdat Mamand Alhagbaker<sup>1</sup>, Nazar Ali Shreen<sup>1</sup>, Awaz Aziz Saeed<sup>1</sup>,  
Madiha Abbas Muhammad<sup>1</sup>

1 Department of Nursing, College of Nursing, Hawler Medical University, Erbil, Iraq.

\*Corresponding author email: madihaabbas418@gmail.com; mobile: 07504155168

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## ABSTRACT

**Purpose:** Studies exploring the adverse effects of oral contraceptive pill (OCP) use among women living in Erbil/Iraq are lacking. This study aimed to assess the patterns of use and associated side effects among women in Erbil.

**Patients and methods:** A face-to-face questionnaire survey inquiring about demographic information and issues related to the use of OCPs and related side effects was completed by 235 women who had used OCPs at least once in their lifetime.

**Results:** The women exhibited positive attitudes towards OCP efficacy and safety, positively associated with their patterns of use. The following common side effects of OCPs were reported: pain (69.4%), vision problems (60%), headache and fatigue (59%), speech impairment (53%), irregular bleeding and breast tenderness (52%), nausea (51%), chest pains (40%), chloasma (37%), weight gain (33 %), abdominal pain (28%), shortness of breath (26%), swelling (20 %), spotting (12%), and allergy (7%).

**Conclusion:** The study revealed that women who have many side effects toward OCPs nevertheless tend to use them appropriately. However, educational programs are advisable to improve knowledge about OCP use among women in Erbil.

## Keywords:.

women health, knowledge, behavior, primary health care centers, environmental factors

## الخلاصة

**الغرض:** لا توجد دراسات لاستكشاف الآثار الضارة لاستخدام حبوب منع الحمل الفموية (OCP) بين النساء اللواتي يعشن في أربيل/العراق. هدفت هذه الدراسة إلى تقييم أنماط الاستخدام والآثار الجانبية المرتبطة بها بين النساء في أربيل.

**المرضى والطرق:** استكمل استبيان وجهاً لوجه يستفسر عن المعلومات الديموغرافية والقضايا المتعلقة باستخدام OCPs والآثار الجانبية ذات الصلة من قبل 235 امرأة استخدمن OCPs مرة واحدة على الأقل في حياتهن.

**النتائج:** أظهرت النساء مواقف إيجابية تجاه فعالية وسلامة OCP، مرتبطة بشكل إيجابي بأنماط استخدامها. تم الإبلاغ عن الآثار الجانبية الشائعة التالية لـ OCPs: ألم (69.4%)، مشاكل في الرؤية (60%)، صداع وإرهاق (59%)، ضعف النطق (53%)، نزيف غير منظم وألم في الثدي (52%)، غثيان (51%)، آلام في الصدر (40%)، كلف (37%)، زيادة الوزن (33%)، آلام في البطن (28%)، ضيق في التنفس (26%)، تورم (20%)، بقع دم (12%)، والحساسية (7%).

كشفت الدراسة أن النساء اللواتي لديهن العديد من الآثار الجانبية تجاه OCPs مع ذلك يميلون إلى استخدامها بشكل مناسب. ومع ذلك، يُنصح بالبرامج التعليمية لتحسين المعرفة حول استخدام OCP بين النساء في أربيل.



## INTRODUCTION

Combination oral contraceptive pills (OCPs, popularly known as “the pill”), are oral contraceptives that contain estrogen and progestin. Taking OCPs suppresses ovulation, thereby preventing the ovaries from releasing an egg, and thus contributing to preclude the potential for impregnation (though not in all cases). OCPs also cause alterations in the cervical mucus and the uterine lining (endometrium), to hamper sperm from reaching the egg.<sup>1</sup> Approximately 8% of women using OCPs conceive during the first year; this means that 92% of those using them are not impregnated.<sup>2</sup> Common side effects are caused by the systemic OCP may be due to estrogenic, presentational, and androgenic activities, or their effects on serum lipoproteins, because of potential long-term adverse effect on body systems, particularly the cardiovascular system. Most women who consume the pill do not develop any side effects, but a small number feel sick, have headaches, or breast tenderness when they take the pill, which usually ease within days or weeks of starting the pill.<sup>3</sup>

## Importance of the study

To our knowledge, no previous study has undertaken to explore OCP side effects among women in Erbil. There is a lack of understanding of how to provide client-centered care for such disadvantaged patients. There is also a general lack of understanding about the adverse effects of OCPs among women in various particularly cultural and socio-economic contexts.

## Justification of the problem

There are many problematic side effects of women's OCPs, including bleeding, breast tenderness, headaches, and mood changes, warranting continual efforts to optimize service provision for such clients.

## Objectives

- To identify the common adverse effects of OCPs among women.
- To find out the relationship between adverse effects of OCPs with some variables such as age group, age of marriage, BMI, duration of using pills, and number of children.

## MATERIAL AND METHODS

Research design: Cross-sectional quantitative descriptive study.

Setting: The study was conducted in four maternal child health centers (MCHs) selected randomly from different directions in Erbil City, including Braiaty MCH from the south, Azadi MCH from the north, Nazdar Bamarni MCH from the east, and Malafandy MCH from west.

Duration: This study was conducted during the period 1-3-2017 to 1-3-2018.



**Population and sample:** A purposive sample was used, including all women who attended the family planning unit in the studied MCHs using OCPs.

**Inclusion criteria:** married women aged 15-49 years' old who have used OCPs.

**Exclusion criteria:** Women that use other methods of family planning, women under 15 years' old, women living outside of Erbil City.

**Sampling technique:** Non-probability (purposive) sampling was used to recruit women who attended the family planning unit for one month in each studied MCH.

**Data collection tool:** A constructed questionnaire format had been used as a means of data collection.

**Method of data collection:** Data was acted through using the questionnaire and interview technique with women who attend the family planning units in the MCH centers. The questionnaires consisted of two parts:

**Part one:** Socio-demographical characteristics of women, such as the age of women, age of marriage, number of children, occupation, education, socio-economic condition, religion, and address.

### **Part two: List of OCP side effects.**

**Ethical consideration:** Official permission was obtained from the Ethical Committee from the Nursing College, Hawler Medical University, and from the Ministry of Health, to carry out the study in MCH centers. We obtained verbal consent from all participants before administering the questionnaires to them. Verbal consent was considered sufficient due to the simple nature of the face-to-face interviews, which took approximately 15 minutes each and did not require any medical interventions or nursing procedure. This is a policy of our University.

**Data analysis:** Data were entered into SPSS version 18 for subsequent analysis using frequency and percentage data and chi-square test to identify relationships between socio-demographic characteristics and side effects of OCP use.

## **RESULTS**

Table 1 illustrates that the largest cohort were aged 36-43 years' old (39.6%), and over half were married between the ages of 14-17. The largest group had a body mass index (BMI) categorized as obese (37.4%). Three-quarters (74%) used combined (as opposed to progesterone) pills, and the majority had been using pills for  $\leq -4$  years (70.6%). Almost half (48.1%) had given birth to 4-6 children. The most common educational level (for a quarter of participants) was high school (23.8%), and more than half were housewives by occupation, with 42.6% reporting middling income, and 41.7% reporting low income. Most lived in urban areas (66.8%), and the vast majority were Muslims (91.5 %).



Table 1 Socio-demographic characteristics of participants

Socio-demographic characteristics		F	%
Age group (years)	20-27	26	11.1
	28-35	60	25.5
	36-43	93	39.6
	44-51	56	23.8
Age at time of first marriage (years)	14-17	123	52.3
	18-21	87	37.0
	22-25	25	10.6
BMI	< 18.5	0	0.0
	18.6-24.9	18	7.7
	25-29.9	88	37.4
	> 30	129	54.9
Duration of using pills	1 ≤ -4	166	70.6
	5-8	28	11.9
	8-12	41	17.5
Number of children	1-3	86	36.6
	4-6	48	48.1
	7-9	36	15.3
Type of contraceptive pills	Combine	174	74
	Progesterone	61	26
Education	Illiterate	36	15.3
	Primary	51	21.7
	High school	56	23.8
	Institute	40	17.0
	College	52	22.2
Occupation	housewife	126	53.6
	Employee	109	46.4
Income	High	37	15.7
	Middle	100	42.6
	Low	98	41.7
Resident	Urban	157	66.8
	Suburban	41	17.4
	Rural	37	15.7
Religion	Muslim	215	91.5
	Christian	9	3.8
	Azilian	11	4.7

Table 2 shows that 71.9% of the study sample reported not having a regular menstrual cycle, and almost all of them had not had a baby in the last six months (99.6%). Almost a fifth (19.1%) was breastfeeding a baby aged less than 6 months' old. More than half of women had undergone an abortion (51.9 %), and only 4.3% of women reported that they forgot to take their birth control pills "often".

**Table 2 General health characteristics of participants**

General information on contraceptive pill users	Yes		No	
	F	%	F	%
Do you have a regular menstrual cycle?	66	28.1	169	71.9
Have you had a baby for less than 6 months?	1	0.4	234	99.6
Have you been breastfeeding a baby under 6 months' old?	45	19.1	190	80.9
Have you had any abortions?	122	51.9	113	48.1
Do you forget to take your birth control pills often?	10	4.3	225	95.7
Do you miss more than one pill?	0	0.0	235	100.0

Table 3 demonstrates that the majority of participants reported having experienced adverse effects of contraceptive pills, including (in descending order of prevalence): pain (69.4%), vision problems (60%), headache and fatigue (59%), speech impairment (53%), irregular bleeding (52.3%), breast tenderness (52.8%), nausea (51%), chest pains (40%), chloasma (37%), weight gain (33%), abdominal pain (28%), shortness of breath (26%), swelling (20%), spotting (12%), and allergy (7%).



Table 3 Side effects of OCPs

Side effects of contraceptive pills	Yes		NO	
	F	%	F	%
Do you have a headache?	139	59.1	96	40.9
Have you ever had any allergic reactions (oral contraceptive pills)?	18	7.7	217	92.3
Have you experienced irregular bleeding?	123	52.3	112	47.7
Have you ever felt pain or missed periods?	163	69.4	72	30.6
Do you see intermenstrual spotting	29	12.3	206	87.7
Do you have shortness of breath?	63	26.8	172	73.2
Do you have chest pains?	94	40.0	141	60.0
Do you have fatigue?	139	59.1	96	40.9
Do you have swelling?	48	20.4	187	79.6
Do you have vision problems?	142	60.4	93	39.6
Do you have speech impairment?	126	53.6	109	46.4
Have you felt the mood change?	68	28.9	167	71.1
Do you have nausea?	121	51.5	114	48.5
Have you had abdominal pain	66	28.1	169	71.9
Do you have weight gain?	78	33.2	157	66.8
Do you have chloasma (facial pigmentation)?	87	37.0	148	63.0
Have you ever experienced breast tenderness?	124	52.8	111	47.2

Table 4 shows that 66.25% commonly experienced adverse effects of contraceptive pills, while 5.75% had rare ones; 28% of the sample reported not having any side effects.

**Table 4 Distribution of OCP side effects among women**

Side effect	F	%
Common	155	66.25
Rare	14	5.75
No	66	28
Total	235	100

Table 5 shows a significant association between contraceptive side effect pills (headache, allergic reaction, spotting, SOB) and the number of children and duration of using pills. There was also a significant association between spotting and BMI. and SOB with age group while there was no significant association between side effects of pills and socio- demographic characteristics.

**Table 5 Association between socio-demographic characteristics and OCP side effects**

Name of side effect	Age group	Age of marriage	BMI	Duration of using pills	Number of children
Headache	P (0.449)	P(0.932)	P(0.646)	P(0.019)	P(0.047)
Allergic reaction	P(0.829)	P(0.979)	P(0.114)	P(0.000)	P(0.013)
Irregular bleeding	P(0.287)	P(0.626)	P(0.4890)	P(0.058)	P(0.338)
Pain	P(0.136)	P(0.468)	P(0.120)	P(0.061)	P(0.125)
Spotting	P(0.284)	P(0.781)	P(0.018)	P(0.030)	P(0.002)
SOB	P(0.041)	P(0.685)	P(0.201)	P(0.000)	P(0.013)
Chest pains	P(0.435)	P(0.685)	P(0.530)	P(0.609)	P(0.326)
Fatigue	P(0.537)	P(0.652)	P(0.981)	P(0.198)	P(0.004)
Swelling	P(0.011)	P(0.096)	p(0.010)	P(0.000)	P(0.000)
Vision problems	P(0.977)	P(0.025)	P(0.071)	P(0.163)	P(0.032)
Speech impairment	P(0.448)	P(0.962)	P(0.002)	P(0.000)	P(0.0000)
Mood change	P(0.074)	P(0.021)	P(0.000)	P(0.000)	P(0.000)
nausea	P(0.588)	P(0.346)	P(0.772)	P(0.140)	P(0.273)
Abdominal pain	P(0.211)	P(0.495)	P(0.008)	P(0.000)	P(0.007)
Weight gain	P(0.082)	P(0.044)	P(0.572)	P(0.001)	P(0.005)
Chloasma	P(0.028)	P(0.793)	P(0.508)	P(0.311)	P(0.022)
Breast tenderness	P(0.159)	P(0.856)	P(0.071)	P(0.013)	P(0.001)





## DISCUSSION

The findings of the present study demonstrated that most of the study samples were feeling pain while using the pills. These results differ from the findings of a study conducted in the UK, which found that the pain threshold of women using OCP was different, as they had less unpleasantness and more tolerance to associated pain. Compared to menstruating women, women using OCP tend to respond differently to cold pressor pain, which might be due to social, environmental, and psychological reasons associated with pain experience, which could be investigated in future studies. Women menstruating naturally found pain more unpleasant compared to women using combination OCP, possibly due to increased circulating hormone levels among such women.<sup>4</sup>

This study highlights the fact that the use of hormonal-based contraceptive drugs may slightly affect the pain reporting, and hence healthcare professionals while eliciting the history of pain should make a note of those women in pain who are using a hormonal contraceptive. Headache and fatigue were the main side effects manifest among 59% of participants in this study sample. This corroborates findings that hormonal contraceptives in females have been linked with a variety of adverse physical, behavioral, and psychological adverse effects, which have received relatively slight attention.<sup>5</sup>

The other most commonly reported side effect with continuous OCP use is irregular vaginal bleeding, which was common during the first three months of OCP use. The researchers believe that counseling and reassurance are necessary during this time to reassure women experiencing such issues. Studies assessing this adverse effect have stated its presence at various levels. It was found that in a large trial of continuous OCPs, almost 19% (396 patients) withdrew from the study because of troublesome uterine bleeding, making this reason the most common reason to withdraw. Additionally, the incidence of breakthrough bleeding and spotting is initially high with continuous dosing, but appears to decrease consistently over time. Millions of women in the USA use some type of hormonal contraception, including combination OCPs, and abnormal uterine bleeding is a common but rarely dangerous side effect of hormonal contraception. Nevertheless, it is the major reason cited for the discontinuation of hormonal contraception, and thus the subsequent incidence of unplanned pregnancy.<sup>6</sup> 52% experienced breast tenderness while using OCPs and there was a significant association (0.001) between age, age group, and duration of using pills with the side effect of breast tenderness. A previous study showed that breast tenderness reduces after 18 months of the use of combined OCPs.<sup>7</sup>

Over half (51.5%) of the study sample complained of nausea during the use of contraceptives, which was usually among the early side effects of using pills, which often resolve after the initial three months. The World Health Organization advises pre-treatment for women who have a history of nausea and vomiting with emergency contraceptive use. For non-emergency use, there are no substantial differences in nausea among combined oral contraceptive formulations.<sup>8</sup>





Other common adverse effects were markedly less common among study participants, including chest pains, chloasma, weight gain, abdominal pain, shortness of breath, swelling, allergy, and Intermenstrual spotting. A study conducted in the USA reported that it was commonly believed by women that taking hormonal birth control causes weight gain. Some individuals might gain weight during the hormonal birth control use, however, others might notice bloating or alterations in body composition (such as the distribution and amount of body fat) that lead them to feel like they are gaining weight. Concern about side effects like weight gain keeps some women from using hormonal birth control. women who report gaining weight during hormonal birth control use (such as the pill and the shot) are more likely to stop using it.<sup>9</sup>

## CONCLUSION

This study highlighted that women in Erbil commonly experience the following side effects of using OCPs: pain, headache, fatigue, nausea, and bleeding. Women using OCP respond differently than those who menstruate naturally, which could be related to factors such as environmental, social, and psychological factors, which should be examined in

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## Disclosure

The authors report no conflicts of interest in this work.

## Conflict of interests.

There are non-conflicts of interest.

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