

RESEARCH ARTICLE

Evaluation the side effects of oral contraceptive pills on women in Al-Kut City, Iraq

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ABSTRACT

The present work was initiated to explore if the contraceptive pills of the generic names, Yasmin and Microgynon (Germany), place some side effects on consumers, women, in Al-Kut City, Iraq. Here, blood samples were collected from 31 consuming women (CW) and 18 non-consuming women (NCW), as a control group. A questionnaire and hormonal (follicle-stimulating hormone (FSH), luteinizing hormone (LH), and estrogen hormone (EH)) tests were used to uncover the presence of side effects. The results of the questionnaire showed side effects of emotional changes (31%), headache and nausea (14%), depression (12%), hormonal disorder (20%), heavy vaginal bleeding between periods (9%), and overweight (14%). The FSH and LH levels revealed significant ($p \leq 0.05$) decreases in the CW group compared with those in the NCW group. However, the EH levels' results demonstrated significant ($p \leq 0.05$) increases in the CW group compared with those in the NCW group. The present investigational study indicates that the contraceptive pills of the generic names, Yasmin and Microgynon (made in Germany), place side effects on consumers, women, in Al-Kut City, Iraq.

Keywords: Contraceptives, estrogen, FSH, LH.

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INTRODUCTION

It has been found that birth control showed an important effect on the health and the reproductive status of men and women. The wishes requested by a man and a woman in a family are categorized into one of the following: either want to have a baby (pregnancy) at the current time, both have different opinions about having baby (pregnancy) at the current time, unwilling to be pregnant at the current time, have a final decision to stop childbearing (no more children), or decide not to have children at all.¹

One of the well-known and dangerous side effects of using contraceptive pills is venous thromboembolism (VTE). However, this dangerous condition was lowered in the number of women who used these pills (9.1 in 10 000) compared with those in the normal pregnant women (30 in 10 000). This is interesting that these pills worked on decreasing the incidence rates of VTE in the women that used the contraceptive pills.²

It has been found that oral contraceptive pills have been linked to elevated levels of risks of having myocardial-related infarction, heart stroke, and VTE. However, stroke is considered as a very uncommon side effect in childbearing women that can be present in about 11 per 100,000 women/ a

year. It was suggested that the risk of getting a stroke might not be influential even after doubling the dose of these pills. Moreover, the long-term use of contraceptive pills in women aged less than 35 years of old was found to elevate the risk of inducing breast cancer in this category of women.³

The present work was initiated to explore if the contraceptive pills of the generic names, Yasmin and Microgynon (made in Germany), place some side effects on consumers, women, in Al-Kut City, Iraq.

MATERIALS AND METHODS

Sampling

From Al-Shafa'a and Tiba Centers (Al-Kut City, Iraq), blood samples were collected from 31 consuming women (CW), had used the contraceptive pills of the generic names (Yasmin and Microgynon, Germany) for 6 months to 3 years, and 18 non-consuming women (NCW), as a control group. The women ages from both groups were 21–42 years old.

Tests

Questionnaire

A questionnaire form was handed out to the women from both

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groups, asking them to fill out this form according to their experiences with the use of these pills. The form included side effects such as emotional changes, headache and nausea, depression, hormonal disorder, heavy vaginal bleeding between periods, and overweight.

Hormonal Tests

Hormones were evaluated in both groups using FSH, LH, and EH as indicator hormones. These hormones were checked using enzyme-linked immunosorbent assay (ELISA).

Statistics

The data presented in the current work as mean ± SD were analyzed using student-*t*-test. The significant results were decided if $p \leq 0.05$. SPSS software was utilized to perform these statistics.

RESULTS

The Questionnaire

The results of the questionnaire showed side effects of emotional changes (31%), headache and nausea (14%), depression (12%), hormonal disorder (20%), heavy vaginal bleeding between period (9%), and overweight (14%), Table 1 and Figure 1.

FSH and LH results

The results of the FSH and LH levels revealed significant ($p \leq 0.05$) decreases in the CW group when compared with those in the NCW group, Table 2 and Figure 2.

The Estrogen Results

The results of the EH levels demonstrated significant ($p \leq 0.05$) increases in the CW group when compared with those in the NCW group, in Table 3 and Figure 3.

Table 1: The questionnaire results regarding the side effects of using contraceptive pills.

Side effect	Percentage (%)
Emotional changes	31
Headache and nausea	14
Depression	12
Hormonal disorder	20
Heavy vaginal bleeding between period	9
Overweight	14

Table 2: The results of the FSH and LH levels in women used oral contraceptive pills.

Parameters	CW	NCW
FSH (mLU/ml)	a 1.58 ± 0.56	b 2.11 ± 6.79
LH (mLU/ml)	a 1.40 ± 1.14	b 5.53 ± 1.60

Table 3: The results of the estrogen levels in women used oral contraceptive pills (Luteal phase).

Parameters	CW	NCW
Estrogen (Pg/ml)	a 211.021 ± 16.46	b 112.08 ± 21.09

DISCUSSION

It has been found that birth control showed an important effect on the health and the reproductive status of men and women. The questionnaire results showed side effects of emotional changes (31%) and depression (12%), and these findings are interesting. Reports have found that these oral contraceptive pills were recorded to benefit women used these pills.⁴ However, other women reported different mood issues such as depression-elevated incidence, fatigue, anxiety, neurotic-related symptoms, compulsion symptoms, and anger.^{5,6} The possible mechanisms that influence the changes in the mood of the women used oral contraceptive pills may be related

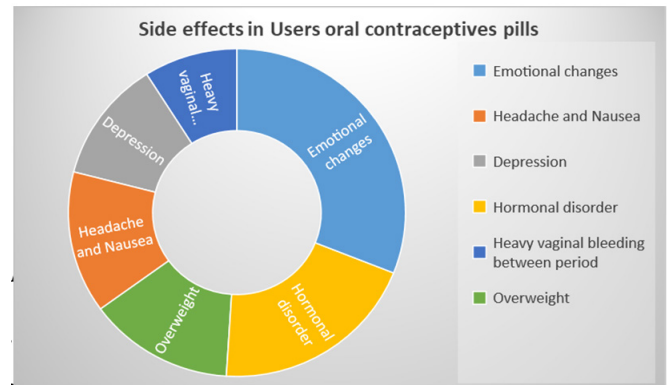


Figure 1: The questionnaire results regarding the side effect percentages of using contraceptive pills in women.

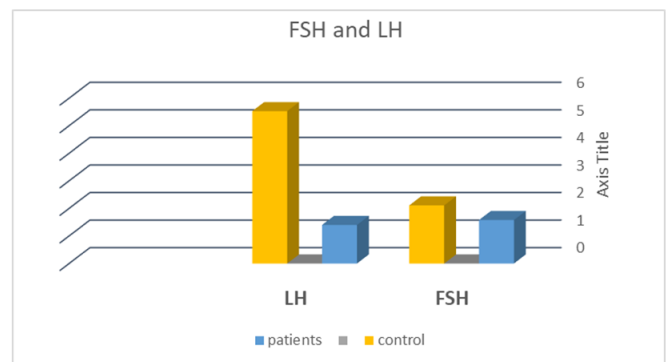


Figure 2: The results of the FSH and LH levels in women used oral contraceptive pills.

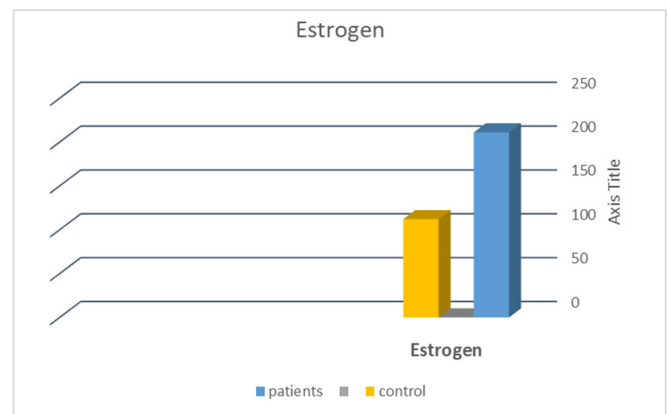


Figure 3: The results of the estrogen levels in women used oral contraceptive pills.

to decreased estradiol levels during the non-luteal stages encouraged by the use of these pills leading to inhibiting the activity of serotonin (5-HT), and that could be explained due to the hormonal changes observed in the current study.^{7,8} These studies agreed with our current study results that demonstrated the changes in the mood merits. Headache and nausea (14%) were observed in the current work, and this agrees with reports that showed that oral contraceptive pills initiate, in the beginning of the use, a headache that could disappear as after a certain amount of utilizing time; however, the use of these pills in women having migraine with aura patients may worsen the headache in those patients.^{9–14} For the case of the heavy vaginal bleeding between period (9%), it has been recorded that unscheduled vaginal bleedings were observed in women that used oral contraceptive pills which agrees with the current study results.^{15,16} For the overweight (14%), it has been linked between obesity and taking oral contraceptives as alterations in the absorption of the pill constituents, distribution volumes, drug metabolism, or drug excretion were tends to be much higher in obese users than those in thin users.^{17–20} The changes in the FSH, LH, and EH were reported to be due to the changes in the pituitary-ovarian physiological functions' activity.²¹ The present investigational study indicates that the contraceptive pills of the generic names, Yasmin and Microgynon (made in Germany), place side effects on consumers, women, in Al-Kut City, Iraq.

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