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## Do Oral Contraceptive Pills In Low Dose (LD) Change One's Mood?.

Pooran Rahbar\*, Mohaddese Asadpour Ghasem Oladi, and Seyed Ali Alavi.

Student Research Committee, Hormozgan University of Medical Sciences, Bandar Abbas, Iran.

### ABSTRACT

Taking oral contraceptive pills is among the safest ways of preventing pregnancy among families. These pills are daily taken by about 100 million women all around the world. However a great many research carried out so far has indicated that women stop taking these pills due to their side effects. The primary side effect has been reported to be change in one's mood. The present research seeks to investigate the effect of contraceptive pills on women's mood. Participants were women who visited the clinics in Bandar Abbas in 2013. The present descriptive/analytic study aims to investigate the effect of contraceptive pills on changing women's mood. 100 women between 15 to 47 years of age who consumed monophasic contraceptive pills (LD) participated in this study. They visited the most popular clinics in Bandar Abbas (numbers 2, 3 and 5), and had taken contraceptive pills for the previous six months. Sampling was done through simple, convenient sample selection method in 2013. The required data were gathered in face-face interviews and through specific pre-designed checklists. The data were then analyzed using SPSS version 20. The data which were analyzed by SPSS 20 showed statistically significant differences between the mean scores of positive and negative affects (positive mood mean: 24.48, negative mood mean: 29.82). According to the findings obtained, contraceptive pills managed to change women's mood. Results revealed that taking these pills decreased positive affects and increased negative affects among consumers. Awareness raising along with instructions on how to control the side effects can solve many of women's problems and can cut down on negative side effects and improve women's health.

**Keywords:** LD contraceptive pills, mood change, women health

*\*Corresponding author*

## INTRODUCTION

Contraceptive pills are the most commonly used contraceptive methods all over the world. They are daily taken by around 100 million women worldwide. They are commonly made up of a substance similar to estrogen and progesterone. Since 1960 until now, a myriad of research has been conducted on these contraceptives. Among their side effects are menstrual disorders, nausea, weight gain, high blood pressure, breast tenderness, vertigo, acne and mood change [1, 2]. Taking oral pills to prevent pregnancy is the safest contraceptive method. However, a great many research so far has indicated that women have stopped taking pills due to their side effects. According to previous research, half of new consumers stop taking these pills within 6 to 12 months of consumption [3, 4]. They would, unfortunately, have unwanted pregnancy [5, 6]. The rate of unwanted pregnancy despite taking these pills has been reported to be 1% per year [7]. Among the reasons why people stop taking these contraceptives are mood changes and sexual problems as the most common reasons for putting aside the pills within the first 3 rounds of consumption. As Grant & Mears reported, changes in sexual desires as a result of taking contraceptive pills are caused by the consequences of modifications in psychological factors [4]. Mood disorders include a wide range of disorders at the core of which is depression. It is one of the most common psychological diagnoses, which is characterized by depression, sadness, low self-confidence, reluctance to do any sort of activity and daily joy. The goal of the present study is to investigate the effect of oral contraceptives on the mood of women who visited medical centers and clinics in Bandar Abbas.

## MATERIALS AND METHODS

The present descriptive/analytic study sought to investigate the effect of oral contraceptive pills on the mood of 15-47 year-old women who consumed LD pills and visited the clinics of Bandar Abbas. Sample selection method was purposive. Participants were in fact all visitors who met the inclusion criteria and consented to take part in this research.

Inclusion criteria were: age (15-47 years) and at least a 6-month experience of consuming oral contraceptives. Exclusion criteria were depression, migraine, Alzheimer, no experience of alcohol consumption, smoking, drugs, etc. and physical illnesses that could affect one's mood (low or high blood pressure, anemia, thyroid, ...). Before entering the study, the purpose of study and its procedures were explained to subjects. They entered with full consent. Once the project was approved by the Deputy of Research and Technology of Hormozgan University, the data were collected in face-to-face interviews and pre-designed checklists by trained interviewers. The checklist contained structured, semi-structured and multiple choice items. On the whole, questions were divided into two sections, the first of which was comprised of demographic questions such as age, no. of children, education, place of residence, BMI, the length of taking LD pills, occupation, and economic status. The second section of the questionnaire included items concerning the measures of negative affects (PANAS). These items were developed based on 20 positive and negative terms. The 10 positive mood terms were: interest, excitement, strength, enthusiasm, self-esteem, awareness, liveliness, determination, mental alertness, attentiveness and activeness. The 10 negative mood terms were: confusion, sadness, guilt, fear, hostility, quick temper, sensitivity, shyness, anger and anxiety. 2 more questions were added to the checklist: changes in breast tenderness and weight gain.

In the checklist of mood alterations, the range of scores was 1 to 5 in a likert type. Responses were in the form of 'little or none' (1), 'a little' (2), 'an average' (3), 'much' (4) and 'to a great extent' (5). Scores were considered to range between 10 and 50 for each of positive and negative affects.

Descriptive and inferential statistics were used to analyze the data. Collected data were then analyzed by SPSS version 20. In analyzing the data related to positive and negative mood alterations,  $p$ -value < .05 was considered to be significant.

## RESULTS

According to the findings, the mean age of women participants was  $30.61 \pm 7.5$  years (max=47, min=17). In terms of education, among these women, 19 (19%) had a B.S./B.A., 8 (8%) had an associate degree, 29 (29%) had a high-school degree, 20 (20%) had a junior high school degree and 24 (24%) had only finished elementary school. 94% of these women were urban residents 70% of whom were housewives. The

mean BMI of these women was  $24.66 \pm 4.02$  (max=38, min=18). The mean length of time they spent on taking contraceptive pills was  $30.07 \pm 30.05$  months (max=168 months, min=6 months). The mean number of their children was  $2.03 \pm 1.5$  (max=8, min=0). 67 (67%) of subjects obtained some information about how to control the side effects of these contraceptives on receiving them from the clinics. 33 (33%) lacked such knowledge. In this study, the economic status of 25 subjects was found to be less than 700 thousand tomans per month. 39 of them earned between 700 thousand to 1 million tomans a month. 35 subjects earned 1-1.5 million tomans and 1 participant earned more. Upon getting the pills from the medical centers, 67 of the women were informed of their side effects and how to control them. 30% of subjects reported a 'little or none' reduction in sexual desire after taking the pills. 28% reported 'a little' loss; 25% an 'average'; 15% reported it to be 'much', and finally 2% reported their loss of sexual desire to be of 'a great extent'. Concerning breast pain and tenderness, 24% reported it to be 'little or none'; 35% had 'a little'; 28% had an 'average' pain and tenderness. 12% reported it to be 'much' and 1% found it to be of 'a great extent'. In terms of weight gain, after the consumption of pills, 24% of women reported it to be very 'little' or 'almost none'. 24% found it as 'a little'. For 22% it was 'average', and for 19% of subjects it was 'much'. 11% reported a 'great extent' of weight gain. Findings related to alterations in positive affects are indicated in table 1.

**Table 1-mood changes in female subjects**

	Number	Minimum	Maximum	Mean	Standard deviation
Positive affects	100	12	43	24.48	7.827
Negative affects	100	12	48	29.82	8.040

**DISCUSSION AND CONCLUSION**

In terms of the overall goal of this research which was investigating the effect of LD contraceptive pills on changing women's mood who visited Bandar Abbas clinics, significant divergences were observed in reduced positive affects and increased negative affects (table 1). Therefore, the hypothesis which maintained that contraceptive pills altered users' mood was confirmed. According to the findings of another study on consumers of contraceptive pills, the prevalence of depression and mood changes among women was reported to be 30% [8]. This was similar to the finding of a study conducted in Mashhad by Peiman which reported that 70% of contraceptive pill users have been afflicted with their side effects. 31% of them mentioned mood alteration as the most common side effect [9]. According to the body of research carried out by Sanders et al. in the U.S., 33% of pill consumers stopped taking these pills after 6 months of consumption. They reported their main reason to be suffering from the side effects [7]. A qualitative study conducted by Melisa on 40 American teenagers who were sexually active found that the majority of subjects stated depression, mood alteration, blood loss, weight gain, facial acne and nausea as the main reasons why they stopped taking pills [10]. Robin et al. conducted a study in Texas to determine the role of oral contraceptives in preventing pregnancy as a main moderating variable in cognitive/emotional performance. Their subjects were 76 healthy women who were 18-48 years old (29 in the treatment group, and 47 subjects in the control group). They realized that these pills had moderated the affective status of an individual through emotional/cognitive processes along with stress [11]. Following these studies, Rapkin et al. found out that in women who took contraceptive pills but had no physical or mental problems, although the use of the pill would cut down on neuroactive steroids in women, there was no mood alteration observed [12]. In their research, Duke et al. first controlled all variables affecting women's mood. Then they realized that taking contraceptive pills did not lead to depression among women [13].

Among the limitations of this study mention can be made of the data collection method concerning women's mood. It involved subjects' self-assessments which might have been incorrect. Moreover, the sample was not of a great size and did not include different social classes. Therefore, we can conclude that taking contraceptive pills do change one's mood. Provision of consultation sessions and trainings in birth control centers can raise women's awareness of how to control the side effects of taking these pills. It could impede them from putting aside these pills all over.



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