

Myths and Misconceptions - Unraveling the Paradox of Oral Contraceptive Pills

Jijo Joseph¹, Krishnapriya Pradeepkumar²,
Thejalakshmi Chettyparambil Lalchand³, Naga Harika Korrapati⁴

¹Department of Medicine, David Tvildiani Medical University, Tbilisi, Georgia

^{2,3}Medical Student at David Tvildiani Medical University, Tbilisi, Georgia

⁴Department of Medicine, Tbilisi State Medical University, Tbilisi, Georgia

Corresponding Author: Jijo Joseph

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ABSTRACT

Since its introduction, the oral contraceptive pill [OCP] has developed into the most utilized birth control technique, setting other birth control methods aside. These tablets have comparable benefits as well as drawbacks, with the highest level of contraceptive effectiveness and the potential for adverse effects such as venous thromboembolism [VTE]. Contraceptives have significantly improved women's health by preventing unintended pregnancies, decreasing the risk of unsafe abortions, extending the time between pregnancies, and giving women the opportunity to recuperate from the physical demands of pregnancy. Even though OCPs are widely used, misconceptions concerning them continue to exist, impacting decisions about how to utilize them and spreading misleading information. This article provides a comprehensive analysis of widespread misconceptions regarding oral contraceptive pills, which might range from cultural norms to a person's lack of knowledge on how they should use them. We were able to discover evidence in the literature review that, in certain situations, doctors' reluctance to provide OCPs to their patients has also been a significant problem. The most often held misconceptions from the data we collected included concerns about whether OCP can increase the risk of uterine fibroids, whether these pills cause severe psychological issues in women, and the social shame attached to using these tablets. Also, a pronounced fear of sterility and health problems, has also seemed to play a significant role in their choice to quit using OCP. By looking at each of these elements in detail, we can highlight that the only things contributing to these incorrect notions are a lack of appropriate information and communication regarding the use of OCPs, their side effects, and the verbal dissemination of false information by people who are not fully aware of this treatment, which prevents these treatments from being used when they are vitally important for women. There is a possibility of addressing these challenges by providing healthcare professionals and consumers with accurate guidance, highlighting the advantages of these medications for leading better lives, preventing unintended pregnancies, and fostering cross-cultural understanding to encourage acceptance of this treatment option when needed.

Keywords: OCP, Women, Contraceptive, Risk, Symptoms, Pills, Effects, Oral

INTRODUCTION

The primary contraceptive mechanism of the combination OCP is to prevent ovulation by inhibiting gonadotropin secretion at both the

level of the pituitary gland and the hypothalamus. The estrogen component of OCPs directly inhibits follicle-stimulating hormone (FSH) secretion, which limits the

development of the dominant ovulatory follicle. The progestin component profoundly suppresses luteinizing hormone (LH) secretion, thickens cervical mucus, and also prevents the LH surge which triggers ovulation (Mishell et al 1977). Due to their usage convenience and reversibility, OCPs are the preferred method of contraception. By preventing unwanted or untimely pregnancies, reducing the likelihood of unsafe abortions, prolonging birth intervals, and providing women with the chance to recover from the physical demands of pregnancy, contraceptives have enhanced women's well-being considerably [1]. Although OCPs offer more benefits than drawbacks, many people choose not to use them in conditions when they are most required. This study aims to pinpoint the myths and misconceptions that people have about oral contraceptives as well as the rationales for why individuals are reluctant to these drugs. Not only the benefit of contraception, OCPs are a major medical advancement with many other health advantages such as treating migraines, joint or inflammatory pain, irregular menstruation, and acne linked to gynecological diseases [2]. The convenience of not bleeding monthly along with the antiandrogenic effect of OCPs in managing acne led to a wide acceptance of this medication [3,4]. One of the tablets' intrinsic drawbacks is that it depends on the individual taking it; more precisely, problems with following instructions and experiencing adverse effects make it less effective [5]. Despite low adherence, the oral contraceptive pill continues to be the most often prescribed method of contraception in more economically developed nations [6].

MATERIALS & METHODS

Twenty-Four published research papers from the years 1974- 2023 were analyzed for this literature review. Since we could not find any pertinent data from the recent literature, and the topic revolves around myths and

misconceptions, we had to extend our research beyond 5 years of the database in order to get more supportive information relevant to our study. The published articles were thoroughly analyzed using keywords such as Oral contraceptive pills, gynecology, pregnancy, and misconceptions of OCPs were used for the literature searches in databases such as Google Scholar and PubMed.

RESULTS

One published literature has raised the question of whether active women taking the OCP at a younger age will have a sufficient peak bone density. They used Cross-sectional research of 128 women aged 20 to 35 years that demonstrated no favorable effect of exercise on bone density in women with extended usage of the OCP [7]. The first use of the OCP at a young gynecological age and extended OCP usage were both associated with poor bone density effects, according to a published abstract presenting a population-based national sample of young adult women [8]. Women who used oral contraceptives had a considerably increased risk of subsequent fractures than women who had never used them, according to the largest study to date (46 000 women, mean age at recruitment 29 years) [7]. Overall, especially with the low dose pills currently on the market, the benefits of the OCP for contraception and Non contraception appear to outweigh any potential drawbacks.

OCPs tend to be neglected as a first-line therapy option due to the widespread misconception that they will promote fibroid growth and exacerbate symptoms. Practitioners still seem to be worried about potential fibroid growth with low dose OCPs. Even though many women take OCP, it is not known if those who have had or are currently being treated for depression are more likely than those who have not to experience more severe depressed and insomnia symptoms while also using OCP [9,10]. Reviewing the studies about the relationship between OCP

use and depression have shown conflicting findings, stating there was no significant exacerbation of depression symptoms in women using OCP in many of the prospective trials ^[9,10]. OCPs may protect against depressive illnesses, according to some published literature, although other researches find no connection.

The idea that using OCPs will affect a patient's ability to conceive in the future is a frequent one. OCPs often have no negative effects on fertility.

Published studies which are focused in the public domain have demonstrated many medical professionals think the OCP may have harmful side effects. This idea makes doctors reluctant to suggest the OCP to their patients. If these myths are dispelled, it is anticipated that they will be more likely to suggest the OCP to their clients, perhaps increasing the OCP's general adoption ^[11].

DISCUSSION

The use of OCPs has several benefits, such as giving women greater control over their bodies, family planning, and providing reassurance against the possibility of unwanted pregnancies. Currently, there are three different forms of oral contraceptive pills: continuous or extended use pills, progesterone-only pills, and combined estrogen-progesterone pills ^[12]. Although the absolute risk is minimal, epidemiological data suggests that COCs are linked to an elevated risk of VTE. The risk is lower than during a typical pregnancy but higher among present COC users compared to nonusers ^[13]. Patient package inserts for missed pills are difficult for women to grasp, so getting written information in addition to contraceptive counseling may help them understand how to handle missed pills better. Increased OCP understanding was observed in married and university-educated individuals, but depressed symptoms were linked to less expertise. Most vascular side effects are related to higher dose medications

and are more frequent in smokers with additional cardiovascular risk factors ^[14]. Before prescribing the OCP, it is important to discover any specific contraindications to its use. However, published scientific data also suggests that women usually take a "Break" from the supposedly prescribed medication regimen. Some took this decision due to the adverse effects of OCPs, while other people had accepted urban legends and misconceptions since they had not received counselling or information on how these medications work. These incidents either involved OCP use causing infertility, other illnesses, or both, or both. These rumours and beliefs include, for instance: Pills can unite to form a necklace-like structure inside the stomach called a mala or Chora, which is local Bangla for "necklace," made of snakes, scorpions, or snails. They can also combine and solidify to form stones in the stomach or uterus ^[15].

When compared to second-generation oral contraceptives, third-generation oral contraceptives are linked to lower rates of acne, hirsutism, and weight gain, but higher rates of venous thromboembolism ^[16]. There are certain tales or anecdotes about OCP use and its side effects, such as that it results in sterility, other health issues, sickness, or both. Other misconceptions include the claims that it can lead to cancer, causes hirsutism, acne, and weight gain ^[17]. Recent research, however, indicates that the OCP is associated with a lower risk of various cancer types. To debunk misconceptions concerning OCP use in women with uterine leiomyoma, education in this area is crucial ^[18]. OCPs tend to be neglected as a first-line therapy option due to the widespread misconception that they will promote fibroid growth and exacerbate symptoms. Poverty, illiteracy, and mistaken religious beliefs have created a culture and environment in Egypt, particularly in rural regions, that have contributed to the propagation of false information regarding

contemporary contraceptives^[19].

Older oral contraceptives have a higher androgenicity, and they are linked to abnormal glucose tolerance tests, an increased risk of hypertension, diabetes, and cardiovascular mortality, as well as decreased HDL and increased LDL. One of the published literatures depicts the percentage, where 40% of the users did not experience any side-effects while using OCP, but women who discontinued OCP mentioned the experience of side-effects as one of three major reasons for discontinuation^[15]. Another factor in the termination of OCP was a lack of contact with trained FP staff regarding side effects and medical issues. OCP is now less accessible for women in their village due to infrequent visits from FP field staff. Concern over sterility is strongly interlinked with religion in the study area, some religious leaders even use FPs personally, but they don't want the rest of the community to know^[15].

According to recent research, using hormonal contraceptives for an extended period increases the risk of developing glioma, a type of malignant brain tumour^[2]. The fusiform face area (FFA), Para hippocampal gyrus (PPA), and cerebellum were all found to have more grey matter volume during periods of the inactive pill phase than during periods of active pill use (Pletzer, Kronbichler, & Kerschbaum, 2015). It has been demonstrated that cultural norms and other non-medical variables significantly influence women's decisions to take contraception in low- and middle-income nations^[19].

Published scientific data also depicts the evidence that brain's structure was changed by OCP use. Relative grey matter volumes were found to be higher among OCP users than non-users. According to the study's findings (Pletzer et al., 2015), the length of OCP use is related to the structural changes in the brain. Many believe that stress and preoccupations are to blame for young women's frequent failure to utilize contraceptives properly and/or

consistently. Additionally, they are unable to read and comprehend the OCP's written materials. According to studies, socio-cognitive characteristics like self-regulation, self-efficacy, attitudes about the necessity and risks of taking medication, perceived hurdles, and perceived vulnerability have a significant role in the choice of which medications to take^[3]. Women who are internally driven to take their medication exhibit improved treatment adherence.

Concerning OCPs and depressive illnesses, there is no universal agreement. Even while OCP in general was not linked to outcomes of depression, some people can suffer depressive symptoms linked to OCP^[9]. OCPs are sometimes prescribed by doctors as an off label means of regulating mood or avoiding depression, especially in young women^[20]. OCP initiation may result in mood instability, which may either cause or aggravate depression, according to opposing evidence^[10]. Oral ulcers, dental caries, and gingival bleeding were common among female OCP users. The gingival and periodontal health of OCPs users was poor and in females, gingival hypertrophy is associated with OCP users^[21]. When ovarian hormone levels are increased, the most common oral symptoms are gingival inflammation and crevicular exudate. Periodontal tissues can target gynecological hormones because gingival tissue contains progesterin, estrogen, and androgen receptors. These hormones function in the crevicular fluid where they are present as growth factors close to microbial colonies. Consequently, making plaque-associated gingivitis worse.

Contraceptive training is expected in family medicine residency education, but a survey revealed that 76% of family physicians had not provided any long-acting reversible contraceptive methods in the last 12 months. The published scientific data has a lot of examples of why women are not taking pills as prescribed. In the narratives shared by participants in various published studies, a

recurring theme emerges concerning personal experiences with oral contraceptive pills. One individual recounted encountering abdominal discomfort, remarking, "I had a problem when I used oral pills for five years; my lower abdomen became hard." Seeking medical assistance, the individual was informed by a physician about the potential adverse effects associated with oral medications. Another participant relayed a perception prevalent among some, suggesting that opting out of using "expensive" oral pills could result in the accumulation of fat in the stomach and possibly hinder future childbearing opportunities. Notably, these stories were not confined to the individuals themselves; they also resonated with their spouses, indicating a broader awareness within the community regarding the perceived impacts of oral contraceptives.

In another focus group discussion [FGD], a man recounted hearing that a woman had a tumor removed during surgery, and the doctor discovered 15,000–16,000 tablets in her abdomen^[15]. After talking about "folk stories," we worried that women might be reluctant to acknowledge that they were impacted by them, the effectiveness of extended and continuously dosed oral contraceptives in lowering menstrual symptoms, such as dysmenorrhea and premenstrual symptoms, has been examined in several research. These medications may also be helpful in easing the symptoms of other gynecologic diseases, including endometriosis, pelvic discomfort, and ovarian cysts^[7]. There is a clear need to address the issue of folk tales in training for service providers, especially those working at the community and union level, as some of these providers still adhere to these beliefs. Additionally, these providers must learn how to counsel women and their partners to lessen their fears and increase their comfort levels. In a FGD, a discontinuer brought up the claim made by religious authorities that "God gives food because he creates our children"^[15]. It is

sinful to take OCP because doing so could cause your stomach to fry. However, key informant FGD participants noted that religious leaders do not speak out against OCP use since they also use them. Reproductive health programmes that refute myths and misguided beliefs about modern contraceptives are recommended, along with continuous provision of such contraceptives^[22].

Positive associations between psychological factors and OCP use have been discovered in several studies. The amount of progestin found in OCPs may be the cause of the relationship. Numerous studies have examined the connection between depression and anxiety, and they have found that either condition can be brought on by stress. There was no discernible impact of the OCP on anxiety levels or perceived stress levels.

Because vocal cords are hormone-dependent structures, abnormal alterations in circulating hormone parameters can have an impact on them. Both professional and amateur singers' voices can be enhanced or restored with oral hormonal contraceptives^[7]. In rural regions, there is still a broad unease regarding whether the use of FP is in line with Islamic doctrine. However, one mullah (religious leader) in the current study revealed that his wife was taking OCP, but he did not want anyone else in the village to know^[15].

Numerous studies have demonstrated that OC users are less likely than non-users to develop benign breast disease. In a research, one-third of COCP users and one-fifth of doctors who prescribed the medication thought it raised the risk of breast cancer, yet 10 years after COCP usage was discontinued, there was no increased risk of breast cancer^[10,14].

OCPs have some adverse symptoms, including nausea, vomiting, lightheadedness, and body aches, which can conceal an intestinal infection that is also present. The risk of thromboembolism may also rise with oestrogen use. Patients should be informed that

many side effects of oral contraceptive pill use go away within the first several months^[3]. For many functional or organic disorders, such as androgenization symptoms, persistent follicular cysts, endometriosis/adenomyosis-related pain symptoms, onset of multiple sclerosis, preservation of bone density, improvement of asthma symptoms, and risk reduction for endometrial, ovarian, and colon cancers, oral hormonal contraceptives are becoming an increasingly important medication. It is well recognized that high estrogen conditions such as pregnancy, lactation, and long-term oral contraceptive use make cellulite worse^[6]. Combined estrogen/progestogen preparations have been useful to treat symptoms of androgenisation because they suppress the production of androgens. Evidence-based contraceptive recommendations must be enhanced among family medicine educators if we are to prevent withholding safe and effective contraception from otherwise qualified candidates and placing women at risk of unexpected pregnancy^[23].

Overall, especially for low dose pills, the advantages of the OCP seem to exceed the drawbacks

Athletic women use the oral contraceptive pill at least as frequently as women in general, and the main justifications offered are contraception, but they also include bone health, cycle manipulation, and premenstrual symptom control^[11]. And the menstrual cycle can be manipulated for travel, training, and competition commitments, among other advantages. The cessation of menstruation is favourable for women in certain professions^[24]. Menses can be minimized in any employment that has hygiene requirements, such as active-duty military. According to active-duty military women, menstruation symptoms have a negative impact on their employment in more than 60% of cases (Schneider et al 1999). Particularly in low body weight sports like distance running, light

weight rowing, and gymnastics, the issue of weight gain is of major concern to both athletes and, frequently more so, to their coaches. Most population research show that taking the OCP has no overall impact on body weight.

In addition to lowering the risk of ovarian and endometrial cancer, the OCP also lowers the risk of iron deficiency anemia and benign breast disease. Headaches, breast soreness, fluid retention, nausea, and weight gain is some of the potential side effects. Most studies indicate no overall effect on body weight while taking the OCP, although individuals' responses to the hormones may involve some weight gain.^[24] The information on breast cancer risk, however, supports the general safety of estrogen-only MHT following hysterectomy.^[10]

Studies have revealed that during the hormone-free period, problems associated with hormones get worse. Continual usage of OCPs may lessen these effects, and it has been proposed that continual administration improves the effectiveness of the contraceptive method. The endometrium, blood pressure, body weight, hemoglobin levels, carbohydrate metabolism, or vascular problems do not appear to be impacted by long-term oral contraceptive use.^[15] Monophasic estrogen/progestogen combinations found in dysmenorrheal hormonal contraceptive pills are regarded as the best option for relieving pain. It delays or prevents the onset of multiple sclerosis, rheumatoid arthritis, menstrual migraine, and pelvic inflammatory illness. Both asthma symptoms. In hospital-based case studies, oral contraceptives were found to reduce rheumatoid arthritis risk by 51% and by roughly 30%, respectively.^[7] Musculotendinous injuries are less common in women, with OC-using women having the lowest likelihood of developing such injuries, followed by non-OC-using women.^[4] Hormonal contraceptives do not appear to have a major impact on the long-term course of the illness, nevertheless.

CONCLUSION

Nearly 50% of the service providers in a study agreed that OCP should not be used continuously for longer than 5 years, and 33% agreed that long-term usage of OCP could result in sterility. Training on contraception is a requirement for family medicine residents. Knowledge about evidence-based contraceptive recommendations must be enhanced among family medicine educators and provide effective contraception methods to those people who are eligible for using OCP's and not placing women at risk of unexpected pregnancy.

Before beginning oral contraceptive pill use, a thorough review of one's own and one's family's medical history (paying special attention to cardiovascular risk factors) and a precise blood pressure reading are advised. According to a woman's exposure to dramatic media reports, anecdotes from friends and family members, and personal values and beliefs, her concerns about the negative effects of oral contraceptive pills can be very different. Well-written patient education materials can improve a fair presentation of facts about oral contraceptive pills and give patients time to think about more general concerns about contraceptive practices. Even though certain people's hormone reactions may result in weight gain due to fluid retention or potential appetite stimulation.

Women's understanding must be increased for them to be able to make informed decisions about contraception. When choosing a birth control method, women must consider the advantages and disadvantages of the side effects. For women to make educated health decisions, it is critical to advance information regarding these treatments.

It is very helpful to find out a patient's current knowledge and understanding of OCPs before prescription so that widespread cultural "myths" can be debunked.

Declaration by Authors

Ethical Approval: Not Applicable

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