



## Research Article

# Beyond Contraception: The Medical Necessity of Hormonal Contraceptives for Optimal Health and Well-being of Women in the UAE

أبعاد أخرى لوسائل منع الحمل: الضرورة الطبية لوسائل منع الحمل الهرمونية لضمان صحة ورفاهية المرأة في دولة الإمارات العربية المتحدة

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### Abstract

Introducing contraception as a method of treatment of many diseases is essential in order to optimize health and well-being of women in the UAE. The aim of the presented study was to analyze the non-contraceptive benefits and possible methods of using hormonal contraception in cultural context of the country. We reviewed articles concerning non-contraceptive use of contraception. Authors conducted their search in Pubmed/Medline, Scopus, Web of Science, EMBASE, CINAHL, National Library of Medicine, and Google Scholar. Hormonal contraceptives offer several health and wellness benefits that can improve the overall quality of life for women. These benefits encompass mood stabilization, reduction of premenstrual symptoms, acne relief, recurrent functional ovarian cysts, and luteal hemorrhagic cysts prevention, positive impact on bone mineral density, treatment of abnormal uterine bleeding, menstrual cycle abnormalities dysmenorrhea, ovarian and endometrial cancer prevention. It can also be used as a symptomatic method of treatment of PCOS and endometriosis. Moreover, it can guarantee appropriate birth spacing and can be prescribed for women with certain medical conditions where pregnancy poses significant risks to their health. Expanding access to hormonal contraceptives for non-contraceptive medical purposes requires a multi-faceted approach, including policy changes, regulatory reforms, insurance coverage adjustments, and educational initiatives for healthcare providers and the general public.

### المخلص

تعد وسائل منع الحمل كدواعي لعلاج العديد من الأمراض النسائية. حيث غدت أمرًا ضروريًا لتحسين صحة ورفاهية المرأة على وجه العموم وفي دولة الإمارات العربية المتحدة. كان الهدف من الدراسة المقدمة هو تحليل الفوائد الأخرى الغير متعلقة بمنع الحمل لوسائل منع الحمل الهرمونية في سياق الوعي المعرفي و الثقافي لقاطني دولة الإمارات العربية المتحدة. تمت مراجعة المقالات الطبية البحثية المتعلقة باستخدام وسائل منع الحمل لغير دواعي منع الحمل. وقام الفريق البحثي للدراسة بمراجعة المقالات المختصة بهذه الأبحاث في العديد من المجالات الطبية التي تم فيها نشر الأبحاث ومنها Pubmed/Medline، Scopus، Web of Science، EMBASE، CINAHL، والمكتبة الوطنية للطب، و Google Scholar. توفر وسائل منع الحمل الهرمونية العديد من الفوائد الصحية و التي يمكن أن تحسن جودة الحياة للمرأة. و تشمل هذه الفوائد استقرار الحالة المزاجية، وتقليل أعراض ما قبل الحيض، وتخفيف حب الشباب، وتقليل النزيف المهبلي، و الحماية من تكيسات المبيض الوظيفية المتكررة، والوقاية من الأكياس النزفية بالمبيض. بالإضافة إلى التأثير الإيجابي على كثافة العظام، وعلاج النزف الرحمي، واضطرابات الدورة الشهرية وعسر الطمث، وتقوية المبيض و الوقاية من سرطان بطانة الرحم. كما يمكن استخدامها أيضًا كطريقة علاجية لعلاج متلازمة تكيس المبايض وبطانة الرحم المهاجرة. علاوة على ذلك، يمكن لهذه الهرمونات أن تضمن المباشرة السليمة بين الولادات. وكما يمكن وصفها كإجراء يمنع حمل للنساء اللاتي يعانين من حالات طبية معينة حين يشكل الحمل مخاطر كبيرة على صحتهم. وعلى ضوء ذلك فإن موانع الحمل الهرمونية تعد من المتطلبات العلاجية وليست للرفاهية العلاجية للمرأة. ومنه يتطلب تغييرات السياسات العلاجية والتنظيمية، وتعديلات التغطية التأمينية، والمبادرات التثقيفية لمقدمي الرعاية الصحية وعامة الناس لتوسيع الوصول إلى وسائل منع الحمل الهرمونية للدواعي الطبية من غير منع الحمل كنهج متعدد الأوجه الطبية.

### OPEN ACCESS

**Keywords:** *Hormonal contraception benefits, Treatment with contraception, Non-contraceptive indication for contraception, Medical indication for contraception, Non-contraceptive benefits*

**الكلمات المفتاحية:** فوائد منع الحمل الهرمونية، العلاج بوسائل منع الحمل، دواعي طبية غير منع الحمل لوسائل منع الحمل الهرمونية، إشارة طبية لمنع الحمل، فوائد غير منع الحمل

## 1. Introduction

It is widely acknowledged that the utilization of contraceptive methods contributes significantly to the enhancement of maternal health and overall well-being (Li et al., 2020). Furthermore, these contraceptive measures serve as vital components in the management and treatment of a multitude of additional medical conditions. Hormonal contraceptives are medications designed to regulate a woman's reproductive system by controlling the hormonal fluctuations that occur during the menstrual cycle, thereby preventing unintended pregnancies (Finer & Zolna, 2016). They are widely used around the world for their high efficacy and ease of use, providing essential family planning options to millions of women (Bearak et al., 2018).

There are several common types of hormonal contraceptives available, each with its unique formulation and method of administration. Combined contraceptives contain synthetic estrogen and progestin and progestin only contraceptives contain only progestin. In between combined contraceptives we can distinguish: combined oral contraceptives (COCs), patches and vaginal rings. COCs are taken daily in pill form (Sitruk-Ware, 2006). Contraceptive patches adhere to the skin and release a combination of estrogen and progestin through transdermal absorption (Abrams et al., 2001). Vaginal rings are flexible devices inserted into the vagina that slowly release estrogen and progestin over several weeks (Roumen & Dieben, 1999). Progestin-only contraceptives can be in the form of pills, injections, intrauterine devices, and implants. This form of contraception is considered as an alternative for women who have contraindications for the use of estrogens (e.g., breastfeeding, cigarette smoking over 35 years old) (Belsey, 1988). Progestin only pills, also known as the "mini-pill," are taken daily in pill form. Intrauterine devices (IUDs) are small, T-shaped devices placed inside the uterus by a healthcare professional, and they come in two varieties: hormonal IUDs, which release a slow, steady stream of progestin, and copper IUDs, which are non-hormonal (Branum & Jones, 2015). The contraceptive implant is a popular and effective form of long-acting reversible contraception (LARC), which provides at least three years of continuous pregnancy protection and do not require any attention by users (Rocca et al., 2021). In females with

epilepsy, estrogen can increase the metabolism of certain antiepileptic drugs, such as lamotrigine, leading to cyclical variation in its blood level with resultant adverse effect profile or seizure dyscontrol (Thomas, 2015). The contraceptive injection is one of the best options for this group of patients, especially that it decreases the chance of seizures.

The mechanisms of action for hormonal contraceptives vary depending on the specific method used but primarily involve inhibiting ovulation, altering cervical mucus to impede sperm migration, and thinning the endometrial lining to prevent implantation (Rivera et al., 1999). Combined contraceptives (COCs, contraceptive patches, and vaginal rings) typically work by suppressing the secretion of follicle-stimulating hormone (FSH) which prevents growing of dominant follicle and luteinizing hormone (LH), which further prevents ovulation (Sitruk-Ware, 2008). Progestin-only contraceptives (pills, IUDs, implants and injections) primarily act by thickening cervical mucus to create a barrier for sperm (Glasier et al., 2022; McCann & Potter, 1994). Moreover, in 50% it may also block ovulation. Copper IUDs which are hormonal free contraception exert their contraceptive effect through a combination of spermicidal action, influence on endometrium, and interference with fertilization (Ortiz & Croxatto, 2007).

Hormonal contraceptives have a high contraceptive efficacy when used correctly and consistently. The typical-use failure rate for COCs, the contraceptive patch, and the vaginal ring is approximately 7%, while the progestin-only pill has a slightly higher typical-use failure rate of 9% (Trussell, 2011). Hormonal IUDs are among the most effective methods, with a typical-use failure rate of <1% (Winner et al., 2012).

The UAE healthcare system is a rapidly evolving, high-quality network of public and private facilities. It is characterized by a blend of government-funded hospitals and clinics, as well as private healthcare providers, all regulated by the UAE Ministry of Health and Prevention (2023). The system's primary aim is to provide accessible, efficient, and high-quality healthcare services to UAE residents and nationals. Despite the numerous non-contraceptive benefits associated with hormonal contraceptives, current policies in the UAE restrict their free of charge access mainly to contraception purposes (Abdulrahman et al., 2019; Ghazal-Aswad et al., 2001). This policy can limit the availability of hormonal contraceptives for women who need them for medically necessary reasons, potentially denying these patients access to important health benefits and leading to negative health outcomes (Mansour et al., 2011).

The aim of the present study was to analyze the non-contraceptive benefits and possible methods of using hormonal contraception. The study was designed in order to synthesize the knowledge in this field. This condensed knowledge may help physicians

and general population to understand non-contraceptive benefits of contraception. We believe that increasing social awareness and awareness among representatives of the healthcare system will contribute to improving the quality of life of women in the Arab Emirates. Lack of knowledge in this field may cause sub-optimal treatment and increase the costs and complications of more advanced treatment.

## 2. Methods

We reviewed articles concerning non-contraceptive use of contraception. Authors conducted their search in Pubmed/Medline, Scopus, Web of Science, EMBASE, CINAHL, National Library of Medicine, and Google Scholar. Databases were extensively searched for all original and review articles/book chapters using keywords (one or in combinations): hormonal contraception benefits; treatment with contraception; non-contraceptive indication for contraception; medical indications for contraception; non-contraceptive benefits published in English until July 2023. Moreover, additional articles in the references of reviewed articles were searched. Overall, most relevant articles were reviewed and included as appropriate according to inclusion and exclusion criteria (Table 1).

**Table 1**

Inclusion criteria	Exclusion criteria
Articles published in peer-reviewed journals	Articles not congruent with the non-contraceptive indications for contraception
Peer-reviewed articles, articles listed in Pubmed/Medline, Scopus, Web of Science, EMBASE, CINAHL, National Library of Medicine, and Google Scholar in the English language, until July 2023	Duplicate articles with matching authors, title, volume, issue number, and digital object identifier (DOI)
Articles explicitly focused on non-contraceptive indications for contraception	Studies related to other areas, such as only contraception

## 3. Results

### 3.1. General health and wellness benefits

In addition to their contraceptive efficacy, hormonal contraceptives offer several health and wellness benefits that can improve the overall quality of life for women. These benefits encompass mood stabilization, reduction of premenstrual symptoms, acne relief, bleeding decrease, recurrent functional ovarian cysts, and luteal hemorrhagic

cysts prevention (Arowojolu et al., 2012; Bancroft & Rennie, 1993; Joffe & Petrillo, 2007; Milsom et al., 1991; Oinonen & Mazmanian, 2002). Moreover, it has potential positive impacts on bone mineral density (Torgerson & Bell-Syer, 2001).

### **3.1.1. Effects of hormonal contraceptives on mood stabilization**

Hormonal contraceptives have been shown to exert mood-stabilizing effects in some women (Oinonen & Mazmanian, 2002). Fluctuating levels of estrogen and progesterone throughout the menstrual cycle can lead to mood swings, irritability, and depression. Hormonal contraceptives help regulate these hormone levels, which can reduce mood disturbances and improve emotional well-being (Joffe & Petrillo, 2007). However, it is important to note that individual responses to hormonal contraceptives may vary, and some women may experience mood-related side effects (Poromaa & Segeblad, 2012).

### **3.1.2. Reduction of premenstrual symptoms**

Premenstrual symptoms, such as bloating, breast tenderness, and headaches, can negatively impact a woman's quality of life. Hormonal contraceptives have been found to alleviate these symptoms by suppressing ovulation and stabilizing hormonal fluctuations (Sulak, 2005). A study by Freeman et al. (2001) reported that the use of hormonal contraceptives resulted in a significant reduction in premenstrual symptoms, which led to improved overall functioning and well-being in women. This effect is the strongest with the contraceptives including drospirenone, especially for premenstrual dysphoric disorder (Lopez et al., 2012).

### **3.1.3. Potential positive impact on bone mineral density**

There is evidence suggesting that hormonal contraceptives may have a positive impact on bone mineral density, particularly in women who use these medications for extended periods (Torgerson & Bell-Syer, 2001). Hormonal contraceptives containing estrogen can help maintain bone density by reducing bone resorption and promoting bone formation (Lindsay et al., 1986). Moreover, a study by Berenson et al. found that long-term use of hormonal contraceptives containing 20 mg ethinyl estradiol and 0.15 mg desogestrel was associated with increased bone mineral density in young women (Berenson et al., 2009).

### 3.2. Interpregnancy intervals and healthier pregnancy outcomes

Interpregnancy intervals play a crucial role in promoting healthier pregnancy outcomes for both mothers and their babies. Hormonal contraceptives can help women achieve appropriate spacing between pregnancies, thus minimizing the risk of adverse outcomes.

Interpregnancy interval refers to the time between the birth of one child and the conception of the next (Conde-Agudelo et al., 2006). The World Health Organization (WHO) recommends waiting at least 24 months after a live birth before attempting the next pregnancy (2007). Adequate interpregnancy intervals are essential for allowing the mother's body to recover from the physical demands of pregnancy and childbirth, and for optimizing maternal and neonatal health outcomes (Zhu et al., 1999).

Short interpregnancy intervals, defined as <18 months between the birth of one child and conception of the next, have been associated with various adverse maternal and neonatal outcomes. Studies have found an increased risk of maternal complications such as preterm birth, low birth weight, and small-for-gestational-age infants among women with short interpregnancy intervals (Conde-Agudelo et al., 2006; DaVanzo et al., 2007). Furthermore, short intervals can result in higher rates of maternal anemia and increased likelihood of uterine rupture in subsequent pregnancies (Stamilio et al., 2007). Neonatal complications associated with short interpregnancy intervals include congenital anomalies, infant mortality, and neurodevelopmental disorders (Class et al., 2011).

Hormonal contraceptives can help women achieve desired interpregnancy intervals by providing effective and reversible family planning options (Cleland et al., 2015). By using hormonal contraceptives, women can better plan their pregnancies, allowing for adequate time to recover physically and emotionally from a previous pregnancy. Consequently, this may lead to healthier maternal and neonatal outcomes in subsequent pregnancies (Ahmed et al., 2012). Moreover, appropriate interval is essential in females after cesarean section for wound healing. It was proven that shortening the interval between deliveries increases the risk of uterine rupture (Stamilio et al., 2007).

### 3.3. Medical indications for contraception

In addition to family planning, hormonal contraceptives can be prescribed for women with certain medical conditions where pregnancy poses significant risks to their health.

These conditions include severe cardiac diseases, chronic disorders, and other health complications that may worsen during pregnancy.

### 3.3.1. Severe cardiac diseases

Severe cardiac diseases, such as pulmonary hypertension and severe heart failure, can pose life-threatening risks to both the mother and fetus during pregnancy (Regitz-Zagrosek et al., 2018). In these cases, avoiding pregnancy is crucial to prevent the exacerbation of the underlying cardiac condition and to reduce maternal and fetal morbidity and mortality (Adam, 2017). Contraceptives offer an effective method for women with severe cardiac diseases to prevent pregnancy and manage associated risks.

### 3.3.2. Chronic disorders

Chronic disorders, including poorly controlled diabetes, lupus with kidney involvement, and severe liver diseases, can significantly impact maternal and fetal health during pregnancy (Chakravarty et al., 2005). Women with these conditions may require contraception to minimize pregnancy-related complications and optimize their health outcomes (Ormesher et al., 2016). Contraceptives can help manage pregnancy risks in these cases by providing effective and reliable contraception (Curtis et al., 2016).

In some cases, women may have contraindications to pregnancy due to medical conditions where pregnancy may exacerbate their disease, leading to significant maternal and fetal complications (Gorenoi et al., 2007). For these high-risk populations, it is crucial to prevent pregnancy, and hormonal contraceptives can play a vital role in managing these pregnancy risks. These conditions may include severe cardiac diseases, chronic disorders like diabetes mellitus with renal failure, and malignancies requiring chemotherapy or radiation therapy (Schindler, 2012). In these cases, effective contraception is essential to protect the health and well-being of women with contraindications to pregnancy (Bitzer et al., 2012).

Preventing pregnancy in women with medical conditions that may worsen during pregnancy is vital to minimize complications and optimize health outcomes. Pregnancy can exacerbate some medical conditions, increasing the risk of maternal and fetal morbidity and mortality (James, 2009). By effectively preventing pregnancy in these cases, healthcare providers can improve the overall health and well-being of these high-risk patients and ensure their safety (Black et al., 2016). It is crucial for healthcare providers

to assess each patient's specific medical history, risk factors, and contraceptive needs to determine the most appropriate hormonal contraceptive method in these high-risk situations (Solymoss, 2011).

### 3.4. Dysmenorrhea and abnormal uterine bleeding

Dysmenorrhea and abnormal uterine bleeding are common gynecological conditions that can negatively impact women's quality of life (MacGregor et al., 2023). Hormonal contraceptives have been shown to be effective in managing these conditions by reducing pain, regulating menstrual bleeding, and stabilizing menstrual cycles (Davis & Westhoff, 2001; I. S. Fraser et al., 2007).

Dysmenorrhea is characterized by painful menstrual periods, while abnormal uterine bleeding refers to all abnormal bleedings including intermenstrual spotting, irregular cycles, heavy menstrual bleeding, and prolonged bleeding (Dawood, 2006). Dysmenorrhea is highly prevalent, affecting up to 90% of adolescent girls and >50% of menstruating women (Iacovides et al., 2015). Menstrual irregularities are also common, affecting up to 30% of reproductive-aged women and might be caused by hormonal disturbances where hormonal therapy is the best method of treatment (I. S. Fraser et al., 2007).

Hormonal contraceptives have been demonstrated to be effective in managing dysmenorrhea and menstrual irregularities. Oral combined contraception is one of the most popular treatment methods of dysmenorrhea if painkillers don't give a significant pain relief (Wong et al., 2009). Several studies have reported reduced pain intensity, increased cycle regularity, and decreased menstrual bleeding in women using hormonal contraceptives (Davis & Westhoff, 2001; Harada et al., 2008). Furthermore, hormonal contraceptives have been shown to improve the quality of life for women suffering from these conditions (Choksey et al., 2023).

The mechanisms of action underlying the benefits of hormonal contraceptives in managing dysmenorrhea and menstrual irregularities are multifaceted (Chan et al., 1981; Dawood, 1988). Contraceptives suppress ovulation, reduce endometrial thickness, and decrease the production of prostaglandins, which are known to cause uterine contractions and pain (Chan et al., 1981). Additionally, hormonal contraceptives stabilize endometrial growth, leading to lighter and more regular menstrual bleeding (Milsom et al., 1991).

### 3.5. Polycystic ovary syndrome (PCOS)

Polycystic ovary syndrome (PCOS) is a complex endocrine disorder that affects 6–10% of reproductive-aged women worldwide, making it one of the most common endocrine disorders in this population (Azziz et al., 2009). PCOS according to Rotterdam criteria is characterized by hyperandrogenism, ovulatory dysfunction, and polycystic ovarian morphology (Smet & McLennan, 2018).

Women with PCOS may experience various symptoms, such as menstrual irregularities (e.g., oligomenorrhea, amenorrhea), acne, and hirsutism (excessive hair growth) due to elevated androgen levels (Azziz, 2018). PCOS is also associated with an increased risk of developing insulin resistance, type 2 diabetes, and cardiovascular disease (Randevara et al., 2012).

Hormonal contraceptives have been shown to effectively manage and treat several PCOS symptoms. By suppressing ovarian androgen production and increasing sex hormone-binding globulin (SHBG) levels, hormonal contraceptives can reduce androgen-related symptoms such as acne and hirsutism (Kriplani et al., 2010). Additionally, these contraceptives can regulate menstrual cycles by providing a stable hormonal environment, thus managing menstrual irregularities (Van Der Vange et al., 1990). Several studies have reported improvements in acne, hirsutism, and menstrual cycle regularity in women with PCOS using hormonal contraceptives (Legro et al., 2013; Mosorin et al., 2023).

### 3.6. Endometriosis

Endometriosis is defined as the presence of endometrial-like tissue outside the uterine cavity, which can cause inflammation and adhesions leading to pelvic pain, ovary cysts formation, and infertility (Brown et al., 2010). The prevalence of endometriosis is estimated to be between 6% and 10% among women of reproductive age, with higher rates observed among women experiencing pelvic pain or infertility (Giudice, 2010).

Hormonal contraceptives have been demonstrated to be effective in reducing pain and slowing the progression of endometriosis (I. Fraser & Weisberg, 2015). Several studies have reported significant improvements in pelvic pain, dysmenorrhea, and dyspareunia among women using hormonal contraceptives to manage endometriosis (Brown et al., 2010; Vercellini et al., 2003). Furthermore, the use of hormonal contraceptives has been associated with a decreased risk of disease recurrence following surgical treatment (Seracchioli et al., 2010). Moreover, most medications used for treatment

block menstruation that can be unacceptable for many patients (Evrard et al., 1976). Contraception might be suitable alternative for this group of patients.

The mechanisms of action of hormonal contraceptives in the management of endometriosis are multifactorial. These contraceptives suppress endogenous estrogen and progesterone production, leading to ectopic endometrial tissue atrophy and reduced menstrual bleeding (Farquhar, 2007). Additionally, hormonal contraceptives inhibit ovulation, reducing the frequency of retrograde menstruation and the likelihood of endometrial tissue implantation outside the uterus (Vercellini et al., 2011). These combined actions contribute to reduced inflammation, decreased pain, and slowed progression of the disease.

### 3.7. Prevention of ovarian and endometrial cancers

The use of hormonal contraceptives has been associated with a reduced risk of developing ovarian and endometrial cancers (Jatoi et al., 2015; Maxwell et al., 2006). This protective effect has been shown to increase with the duration of hormonal contraceptive use (Jatoi et al., 2015).

Ovarian cancer is the seventh most common cancer among women worldwide, with an estimated 295,414 new cases and 184,799 deaths occurring in 2018 (Bray et al., 2018). Endometrial cancer, which affects the lining of the uterus, is the sixth most common cancer among women, with 382,069 new cases and 89,929 deaths reported in the same year (Ferlay et al., 2019).

Long-term use of hormonal contraceptives has been shown to significantly reduce the risk of developing both ovarian and endometrial cancers. A meta-analysis of 45 epidemiological studies revealed that the risk of ovarian cancer decreased by approximately 20% for every five years of hormonal contraceptive use (Collaborative Group on Epidemiological Studies of Ovarian Cancer, 2008). Similarly, a meta-analysis of 36 studies found that the risk of endometrial cancer was reduced by nearly 50% in users of hormonal contraceptives, with the risk further decreasing with increasing duration of use (Endometrial Cancer and Oral Contraceptives, 2015).

The protective effect of hormonal contraceptives against ovarian and endometrial cancers may be attributed to several mechanisms of action. For ovarian cancer, hormonal contraceptives inhibit ovulation, reducing the number of ovulatory cycles and the associated risk of ovarian epithelial damage and subsequent malignant transformation (Cibula et al., 2011). In the case of endometrial cancer, the progestin component of

hormonal contraceptives induces a thinner and less mitotically active endometrium, thereby lowering the risk of endometrial hyperplasia and malignancy (Kaunitz, 2000).

### **3.8. Premenstrual Syndrome (PMS) and Premenstrual Dysphoric Disorder (PMDD)**

Premenstrual Syndrome (PMS) and Premenstrual Dysphoric Disorder (PMDD) are cyclical disorders that cause physical and emotional symptoms in women before the onset of menstruation (ACOG Committee on Practice Bulletins–Gynecology, 2000). Hormonal contraceptives have been demonstrated to be effective in alleviating the symptoms of these disorders.

PMS is a common, cyclic condition characterized by a variety of physical and emotional symptoms experienced in the days leading up to menstruation (ACOG Committee on Practice Bulletins–Gynecology, 2000). It is estimated that 75% of women experience mild to moderate PMS symptoms, while 3–8% meet the criteria for PMDD, a more severe form of PMS (Halbreich et al., 2003; Yonkers et al., 2008). PMDD is characterized by significant mood disturbances, including depression, irritability, and anxiety, which can cause substantial impairment in daily functioning (Epperson et al., 2012).

Symptoms of PMS and PMDD typically begin during the late luteal phase of the menstrual cycle and resolve with the onset of menstruation. These symptoms can include mood changes, such as irritability, depression, and anxiety, as well as physical symptoms like bloating, breast tenderness, headaches, and fatigue (Biggs & Demuth, 2011). In PMDD, the psychological symptoms are more severe and can lead to significant functional impairment.

Hormonal contraceptives have been shown to be effective in managing the symptoms of PMS and PMDD. By suppressing ovulation and stabilizing hormone levels throughout the menstrual cycle, hormonal contraceptives can alleviate mood fluctuations and reduce the severity of physical symptoms (O'Brien et al., 2018; Rapkin & Winer, 2007). A systematic review found that COCs containing drospirenone were particularly effective in reducing the severity of PMS and PMDD symptoms (Lopez et al., 2012).

### **3.9. Anemia prevention**

Iron-deficiency anemia is a common health issue, particularly among women of reproductive age (Qadir et al., 2022). Globally, it is estimated that 29% of non-pregnant women of reproductive age are affected by anemia, with iron deficiency being the

most common cause (Stevens et al., 2013). Iron-deficiency anemia is characterized by a decrease in the number of red blood cells or a reduction in hemoglobin levels due to insufficient iron, which is essential for the production of hemoglobin (World Health Organization, 2008).

Hormonal contraceptives have been shown to be effective in reducing menstrual blood loss, thereby decreasing the risk of iron-deficiency anemia (Stevens et al., 2013). Additionally, a study on the levonorgestrel intrauterine system (LNG-IUS) reported significantly reduced menstrual blood loss and increased hemoglobin levels among users (Lukes et al., 2008).

Hormonal contraceptives reduce menstrual blood loss through several mechanisms, including suppression of ovulation, thinning of the endometrial lining, and stabilization of the blood vessels within the endometrium (Edelman et al., 2014; Maybin & Critchley, 2016). The overall effect of these actions is a reduction in the volume of menstrual bleeding, which helps to prevent iron loss and decrease the risk of developing iron-deficiency anemia.

### **3.10. Acne and hirsutism management**

Hormonal contraceptives are often prescribed to manage acne and hirsutism, both of which are conditions related to hormonal imbalances (Trivedi et al., 2017). They can be effective in regulating these imbalances and providing relief from these distressing symptoms.

Acne is a common skin condition characterized by the formation of comedones, papules, pustules, and nodules due to increased sebum production and inflammation in the pilosebaceous unit (Zaenglein et al., 2016). Hirsutism is the excessive growth of coarse, terminal hairs in androgen-sensitive areas of a woman's body, which can cause significant emotional distress (Azziz et al., 2009). Acne affects approximately 85% of adolescents and young adults aged 12 to 24 years, while hirsutism affects approximately 5–10% of women of reproductive age (Azziz, 2003; Bhate & Williams, 2013).

Hormonal contraceptives have been shown to be effective in the management of acne and hirsutism (Słopień et al., 2018). A Cochrane review demonstrated that COCs containing estrogen and antiandrogenic progestin significantly improved acne compared to placebo (Arowojolu et al., 2012). Another systematic review and meta-analysis found that oral contraceptives reduced hirsutism scores by 22.4% compared to placebo (Van Zuuren et al., 2015).

The effectiveness of hormonal contraceptives in managing acne and hirsutism can be attributed to their ability to regulate hormonal imbalances that contribute to these conditions. COCs suppress androgens, such as testosterone, by inhibiting ovarian androgen production and increasing sex hormone-binding globulin (SHBG) levels, which leads to reduced free testosterone (Stouffer & Woodruff, 2017). This, in turn, decreases sebum production and hair growth in androgen-sensitive areas (Lucky et al., 2008). Progestin-only contraceptives may have a variable impact on acne and hirsutism, depending on the androgenic properties of the specific progestin used (Davis & Westhoff, 2001).

## 4. Discussion

Hormonal contraceptives offer several health and wellness benefits that can improve the overall quality of life for women. These benefits encompass mood stabilization, reduction of premenstrual symptoms, acne relief, bleeding decrease, recurrent functional ovarian cysts, and luteal hemorrhagic cysts prevention, positive impact on bone mineral density, treatment of abnormal uterine bleeding, menstrual cycle abnormalities and dysmenorrhea, and ovarian and endometrial cancer prevention. It can also be used as a symptomatic method of treatment of PCOS and endometriosis. Moreover, it can guarantee appropriate birth spacing and can be prescribed for women with certain medical conditions where pregnancy poses significant risks to their health.

Contraceptives are a valuable tool in managing pregnancy risks for women with severe cardiac diseases and chronic disorders. By preventing pregnancy in these high-risk populations, contraceptives can improve overall health outcomes and reduce the likelihood of pregnancy-related complications (Stamilio et al., 2007). Healthcare providers should carefully assess each patient's medical history, risk factors, and contraceptive needs to determine the most appropriate contraceptive method for their specific circumstances (Bitzer et al., 2012).

Healthcare providers in the UAE may face several challenges when trying to prescribe hormonal contraceptives for non-contraceptive medical purposes. These challenges include the need to justify the prescription in the context of existing policies, potential reluctance among patients or pharmacists due to cultural or religious reasons, and lack of awareness or understanding about the non-contraceptive benefits of these medications among both patients and healthcare professionals (Ghazal-Aswad et al., 2001; Skouby, 2004). Addressing these challenges will require a re-evaluation of current policies to accommodate the use of hormonal contraceptives for medically necessary purposes, as well as increased awareness and education among healthcare providers

and the public about the various non-contraceptive health benefits associated with these medications.

Expanding access to hormonal contraceptives for non-contraceptive medical purposes requires a multi-faceted approach. Amending existing policies in the UAE to allow the prescription and use of hormonal contraceptives for non-contraceptive medical purposes is essential. These changes should emphasize the scientific evidence supporting the various health benefits of hormonal contraceptives beyond their use as a contraception method (Haider & D'Souza, 2009). Regulatory bodies should adapt guidelines and procedures to accommodate the expanded use of hormonal contraceptives for non-contraceptive purposes. This might involve updating protocols for prescription approvals and incorporating new indications for the use of hormonal contraceptives in clinical practice guidelines (Allen et al., 2013; Glasier & Gebbie, 1996). Ensuring that insurance coverage policies in the UAE include hormonal contraceptives for non-contraceptive medical purposes can facilitate increased access for patients who would benefit from these medications. Such change may in fact decrease the costs of currently used more expensive methods of treatment. These adjustments should include both public and private insurance providers, as well as employer-sponsored health plans (Cheng et al., 2008; Haider & D'Souza, 2009).

Some patients perceive contraception as an assault of their fertility, which might be against their beliefs and religion. Especially in the culture where fertility is perceived as a God's blessing. Convincing them, that it might be perceived as a method of treatment is the most important aim of counseling. Lack of awareness or understanding about the non-contraceptive benefits of these medications among both patients and healthcare professionals can be minimized by improving understanding and awareness of the non-contraceptive benefits of hormonal contraceptives. Educational initiatives should be implemented for healthcare providers and the general public. These efforts may include continuing medical education programs for physicians, pharmacist training, and public health campaigns designed to inform and educate the public about the various non-contraceptive uses of these medications (Pazol et al., 2015, 2018). Promoting accurate and evidence-based information about the medical benefits of hormonal contraceptives can help combat misconceptions and stigma surrounding these medications. Initiatives aimed at raising awareness should emphasize the range of conditions that can be treated or managed with hormonal contraceptives, as well as their potential role in improving overall women's health and well-being (Cheng et al., 2008). In order to minimize cultural and religious barrier a public debate on benefits should be introduced.

By implementing these recommendations, the UAE can work toward expanding access to hormonal contraceptives for non-contraceptive medical purposes and improving healthcare outcomes for women who require these medications for their various health benefits.

## 5. Conclusion

Expanding access to hormonal contraceptives for non-contraceptive medical purposes requires a multi-faceted approach, including policy changes, regulatory reforms, insurance coverage adjustments, and educational initiatives for healthcare providers and the general public.

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## Competing Interests

The authors have no competing interests to declare.

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