



Differences in Premenopausal Syndrome Between Users of Hormonal and Non-Hormonal Contraceptive Methods

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Abstrak

Premenopause, menopause, dan postmenopause merupakan tiga fase yang akan dialami oleh wanita saat berusia 40 tahun hingga 50 tahun. Sebelum terjadi fase menopause biasanya didahului dengan fase premenopause. Penelitian ini bertujuan untuk Mengetahui Perbedaan Sindrom Premenopause Pada Akseptor Kb Hormonal Dan Non Hormonal. Desain penelitian yang digunakan yaitu desain penelitian survey analitik dengan pendekatan Cross Sectional. Jumlah sampel dalam penelitian ini sebanyak Akseptor Kb Hormonal Dan Non Hormonal menggunakan purposive sampling. Analisis data yang digunakan adalah uji Paired Sample t-Test. Hasil penelitian didapatkan hasil askeptor kb hormonal terbanyak dengan kategori tidak ada sindroma premenopause sejumlah 18 responden dengan presentase 78,3 persen serta kategori ringan sebanyak 5 orang dengan presentase 21,7 persen serta kb non hormonal dengan kategori tidak ada dan sedang sejumlah 4 responden dengan presentase 17,4 persen ringan sejumlah 13 responden dengan presentase 56,5 persen dan berat sejumlah 2 responden dengan presentase 8,7 persen. Dengan uji independent sample t-test p value (0,043 kurang dari 0,05) maka H_0 ditolak, artinya terdapat perbedaan sindrom premenopause pada akseptor kb hormonal dan non hormonal. Berdasarkan hasil penelitian dapat disimpulkan ada perbedaan yang signifikan antara sindroma premenopause pada skeepor hormonal dan non hormonal. Sehingga petugas kesehatan dapat mengedukasi terkait cara mengatasi sindroma premenopause dan menggerakkan askeptor KB untuk menerapkan pola hidup sehat dan rajin berolahraga.

Abstract

Premenopause, menopause, and postmenopause are three phases that women will experience when they are aged 40 to 50 years. The menopause phase is usually preceded by the premenopause phase. This study aims to determine the difference in premenopause syndrome between hormonal and non-hormonal contraceptive acceptors. The research design used was an analytic survey research design with a cross-sectional approach. The number of samples in this study was hormonal and non-hormonal contraceptive acceptors, selected using purposive sampling. The data analysis used was the Paired Sample t-Test. The results showed that the majority of hormonal contraceptive acceptors were in the "no premenopause syndrome" category, totaling 18 respondents (78.3 percent), and the "mild" category, totaling 5 people (21 percent). For non-hormonal contraceptive acceptors, the "no" and "moderate" categories each had 4 respondents (17.4 percent), the "mild" category had 13 respondents (56.5 percent), and the "severe" category had 2 respondents (8.7 percent). With the independent sample t-test p -value (0.043 is less than 0.05), H_0 is rejected, meaning there is a difference in premenopause syndrome between hormonal and non-hormonal contraceptive acceptors at Tajinan sub-district. Based on the research results, it can be concluded that there is a significant difference in premenopause syndrome between hormonal and non-hormonal acceptors. Therefore, health workers can provide education regarding ways to overcome premenopause syndrome and encourage contraceptive acceptors to adopt a healthy lifestyle and exercise regularly.

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Background

With increasing age, various developmental and growth processes occur in humans. However, at a certain point, these developmental processes eventually cease, leading to numerous functional changes in the human body. Such changes typically occur during the aging process, which involves both physical and psychological alterations. (Hartati et al., 2024)

In 2025, it is estimated that there will be approximately 373 million premenopausal women, representing about 7.4% of the global population. By 2030, the World Health Organization (WHO) projects that around 1.3 billion individuals will experience the premenopausal stage, with an average age of onset of 48 years (Hasugian et al., 2024). In 2021, Indonesia recorded 20,484,509 women aged 45–55 years, of whom 192,361 resided in Malang Regency (Badan Pusat Statistik, 2022).

Based on interviews and observations conducted by the researcher on November 2, 2024, with five patients., it was found that three users of non-hormonal contraception reported emotional and physical symptoms such as stress, sadness, irritability, anxiety, panic, fatigue, decreased concentration, forgetfulness, reduced sexual desire, urinary difficulty, and vaginal dryness. In contrast, two users of hormonal contraception reported minimal emotional or psychological disturbances, with only mild premenopausal symptoms such as mood swings and irritability.

Premenopause, menopause, and postmenopause are three physiological phases that occur in women between the ages of 40 and 50. The menopausal phase is usually preceded by the premenopausal phase, also referred to as the anovulatory period. Premenopause is a physiological condition in which women experience a decline in ovarian estrogen levels, a hormone that plays a vital role in reproduction and sexuality. During this period, women undergo endocrine, somatic, and psychological changes marking the end of their reproductive phase. Common psychological complaints include depression, fatigue, irritability, decreased memory, and concentration. Urogenital complaints may include urinary incontinence, dyspareunia, and sexual dysfunction. These symptoms typically peak before and during menopause and gradually subside as hormonal balance is restored in later life. Despite experiencing premenopausal syndrome, women in this age group still require contraception since pregnancy remains possible (Yulizawati et al., 2022).

Non-hormonal contraception refers to methods that do not contain hormones, such as condoms, intrauterine devices (IUDs), and sterilization procedures. In contrast, hormonal

contraception contains synthetic hormones, primarily progesterone, which prevents ovulation by thickening cervical mucus and inhibiting sperm penetration. Common hormonal methods include implants, DMPA injections (Depo Medroxyprogesterone Acetate), and mini-pills.

Previous studies have indicated that combined oral contraceptives can alleviate psychological, vasomotor (blood flow regulation in small vessels), and urogenital symptoms associated with premenopause. Progesterone-only formulations, such as DMPA injections, have also been shown to reduce vasomotor and urogenital symptoms (Jun et al., 2019)

Premenopausal syndrome can occur in all women. Contraceptive use remains necessary for women aged 40 and older. Hormonal contraceptives containing progesterone can suppress premenopausal symptoms, while non-hormonal contraceptives do not provide such hormonal regulation, thus making users more prone to premenopausal symptoms (Ratnasari et al., 2024). Although hormone replacement therapy (HRT) may help reduce symptoms, it is not always a practical solution. Preventive measures, such as a balanced diet, nutritional supplements, relaxation techniques, regular physical activity, sexual activity, and periodic health check-ups, are recommended (Dinengsih et al., n.d.).

The researcher aims to determine the differences in premenopausal syndrome between users of hormonal and non-hormonal contraceptive methods. It is expected that this study will increase awareness among contraceptive users about how to manage premenopausal symptoms through lifestyle modification without necessarily changing contraceptive methods. The study also seeks to provide evidence-based information for health professionals to offer effective communication, information, and education (KIE) to family planning clients in choosing the most suitable contraceptive method.

Methods

This study employed an analytic survey design with a cross-sectional approach. The total sample consisted of 46 respondents, comprising 23 users of hormonal contraceptives and 23 users of non-hormonal contraceptives. Sampling was carried out using a non-probability purposive sampling technique. The research was conducted at TPMB Febiyanti Mafikasari, A.Md. Keb, located in Tajinan Subdistrict, Malang Regency. The independent variable in this study was the type of contraceptive used (hormonal or non-hormonal), while the dependent variable was the severity of premenopausal syndrome. Ethical approval was obtained from the Ethics Committee with approval number 001897/EC/KEPK/I/12/2024. Data were analyzed

using SPSS with the Paired Sample t-Test to assess differences in premenopausal syndrome between the two groups.

Result and Discussion

1. Respondent Characteristics

Table 3.1. Distribution of Respondents by Age

Age (Years)	Hormonal	%	Non-Hormonal	%
40–42	21	91.3	18	78.3
43–45	2	8.7	5	21.7
Total	23	100	23	100

Source: Research Questionnaire, 2024.

Table 3.1 shows that the majority of hormonal contraceptive users were aged 40–42 years (91.3%), while the non-hormonal group was similarly dominated by respondents in the 40–42 age range (78.3%).

2. Duration of Contraceptive Use

Table 3.2. Distribution of Respondents by Duration of Contraceptive Use

Duration of Use	Hormonal	%	Non-Hormonal	%
2–3 years	6	21.7	8	34.8
4–5 years	11	47.9	11	47.8
> 5 years	7	30.4	4	17.4
Total	23	100	23	100

Source: Research Questionnaire, 2024.

As shown in Table 3.2, the largest proportion of respondents in both the hormonal and non-hormonal groups had used contraceptives for 4–5 years (47.9%).

3. Types of Contraceptives Used

Table 3.3. Distribution of Respondents by Type of Contraceptive

Type of Contraceptive	Hormonal	%	Non-Hormonal	%
Injection	13	56.5	–	–
Pill	6	26.1	–	–
Implant	4	17.4	–	–
Condom	–	–	8	34.8
IUD	–	–	15	65.2
Total	23	100	23	100

Source: *Research Questionnaire, 2024.*

Table 3.3 indicates that among hormonal contraceptive users, injectables were the most commonly used method (56.5%), followed by pills (26.1%) and implants (17.4%). In contrast, non-hormonal users predominantly relied on intrauterine devices (IUDs) (65.2%), followed by condoms (34.8%)

4. Premenopausal Syndrome Distribution

Table 3.4. Distribution of Respondents by Premenopausal Syndrome Category

Syndrome Category	Hormonal	%	Non-Hormonal	%
None	18	78.3	4	17.4
Mild	5	21.7	13	56.5
Moderate	0	0.0	4	17.4
Severe	0	0.0	2	8.7
Total	23	100	23	100

Source: *Research Questionnaire, 2024.*

Table 3.4 illustrates that the majority of hormonal contraceptive users (78.3%) reported no premenopausal symptoms, while 21.7% experienced mild symptoms. In contrast, most non-hormonal contraceptive users reported mild symptoms (56.5%), followed by moderate (17.4%) and severe symptoms (8.7%).

5. Analysis of Differences in Premenopausal Syndrome Between Hormonal and Non-Hormonal Contraceptive Users

Table 3.5. Independent Sample t-Test Analysis

Contraceptive Type	Mean	SD	p-value
Hormonal	-0.957	0.195	0.043
Non-Hormonal	-0.957	0.195	–

Source: *Research Data, December 2024.*

As shown in Table 3.5, the independent sample t-test resulted in a p-value of 0.043, which is lower than the significance level of 0.05. Therefore, the null hypothesis (H_0) was rejected, indicating a statistically significant difference in premenopausal syndrome between hormonal and non-hormonal contraceptive users.

Premenopausal Syndrome Among Hormonal Contraceptive Users

The study found that the majority of hormonal contraceptive users fell into the “no premenopausal syndrome” category, with 18 respondents (78.3%), while five respondents

(21.7%) experienced mild symptoms. According to (Kartini, 2020.) hormonal contraceptives contain a combination of estrogen and progesterone that suppresses ovarian function, thereby preventing ovulation. Consequently, women with a history of hormonal contraceptive use tend to enter menopause later, as the presence of synthetic estrogen and progesterone reduces premenopausal symptoms. Setyowati et al (2017) similarly reported that the onset of perimenopause is delayed in women using combination injectable contraceptives compared to non-users. Furthermore, (Faculty of Sexual dan Reproductive Health Care, 2017) found that combined oral contraceptives reduce perimenopausal symptoms, allowing women to experience milder transitions into menopause. Estrogen, as a naturally occurring ovarian hormone, influences calcium regulation in the body. In hormonal contraceptive users, this natural hormone is replaced by synthetic estrogen found in hormonal injections, maintaining hormonal balance.(Natalia et al., 2024)

Women using hormonal contraceptives, including injectables and pills, often experience menstrual cycle alterations—either lengthened or shortened (Maulida Rahayu & Anggraeni, 2024). Interview data revealed that although injectable users reported irregular menstrual cycles, pill users tended to have regular monthly cycles. Menstrual irregularity is recognized as one of the main indicators of perimenopause (Norisa et al., 2022).

The researcher's analysis indicates that most hormonal contraceptive users did not experience premenopausal syndrome. The use of hormonal contraceptives effectively suppresses premenopausal symptoms. Estrogen and progesterone contained in these contraceptives play a significant role in delaying the onset of premenopausal symptoms by substituting for declining natural hormone levels. This supports the current study's finding that the majority of hormonal contraceptive users did not report premenopausal symptoms or only experienced mild ones.

Mild symptoms included occasional sweating, palpitations, sleep disturbances, irritability before menstruation, fatigue, sexual dissatisfaction, and vaginal dryness. These mild presentations may also be influenced by healthy lifestyle habits among respondents such as participating in weekly group exercise sessions organized by the local village office and consuming nutrient-rich foods. Many respondents reported that they regularly consumed locally grown vegetables such as spinach, lettuce, legumes, and tubers, which are easily accessible and affordable in village. These habits are likely to help reduce the severity of premenopausal symptoms.



Premenopausal Syndrome Among Non-Hormonal Contraceptive Users

The findings showed that among non-hormonal contraceptive users, 17.4% reported no symptoms, 56.5% reported mild symptoms, 17.4% moderate symptoms, and 8.7% severe symptoms.

Non-hormonal contraceptive methods, such as IUDs, tubectomy, vasectomy, condoms, and calendar methods, do not contain hormones and therefore do not influence the body's hormonal condition. The IUD is preferred due to its safety, cost-effectiveness, long-term protection, and minimal side effects (Irawati Harahap, 2025). According to (Guerin et al., 2022), menopause tends to occur earlier among non-hormonal contraceptive users, while hormonal contraceptive users experience a delay in menopause syndrome onset.

The occurrence of severe premenopausal syndrome in women who did not use hormonal contraception was associated with age so that at the age of 40-45 years, they were in the premenopause period, followed by symptoms of premenopausal syndrome compared to those who used hormonal contraception who were more likely to experience menopause at an older age (Sinambela et al., 2024).

Although non-hormonal contraceptives do not alter hormonal levels, the results suggest that the majority of users experienced only mild premenopausal symptoms. This finding aligns with Mharethiafani (2013), who observed that most non-hormonal contraceptive users did not experience severe perimenopausal syndromes. Lifestyle factors may contribute to this, as many respondents maintained healthy habits such as avoiding caffeine and smoking. However, a small number of respondents (8.7%) experienced severe premenopausal symptoms, primarily due to unhealthy lifestyles—such as working long hours in factories, skipping home-cooked meals, and frequently consuming caffeinated beverages (coffee) to combat fatigue.

This study also observed that condom users tended to experience premenopausal symptoms earlier than IUD users, possibly because condoms do not affect female physiology, whereas IUDs are inserted into the uterus, potentially causing minor local hormonal or tissue responses.

Comparison Between Hormonal and Non-Hormonal Contraceptive Users

The results of the independent sample t-test yielded a p-value of 0.043 (< 0.05), leading to the rejection of the null hypothesis (H_0). This indicates a statistically significant difference in premenopausal syndrome between hormonal and non-hormonal contraceptive users.



This finding supports (Sinambela et al., 2024), who reported a statistically significant difference ($p = 0.026$) in premenopausal and postmenopausal symptoms between users of combined oral contraceptives and non-hormonal contraceptive (IUD) users. He also stated that hormonal contraceptive users tend to experience fewer menopausal symptoms due to estrogen's regulatory effect on the menstrual cycle and vasomotor stability. Common perimenopausal symptoms include menstrual irregularities, hair loss, dry skin, weight gain, mood swings, sleep disturbances, vaginal dryness, decreased libido, hot flashes, and palpitations. Women using hormonal contraceptives exhibit fewer of these symptoms, as the synthetic estrogen helps stabilize hormone levels. Conversely, non-hormonal contraceptive users experience an earlier menopause onset due to the absence of hormonal supplementation.

The findings of this study reinforce the understanding that hormonal contraceptive use can mitigate premenopausal symptoms through hormonal regulation, while non-hormonal contraceptive users, who lack such regulation, experience more noticeable symptoms. The results also suggest that lifestyle habits such as regular exercise, healthy eating, and social engagement contribute to symptom moderation across both groups.

Conclusion

This study concludes that there is a statistically significant difference in premenopausal syndrome between users of hormonal and non-hormonal contraceptive methods ($p = 0.043$). Most hormonal contraceptive users did not experience premenopausal symptoms, whereas non-hormonal users predominantly experienced mild symptoms. These results demonstrate that hormonal contraceptives containing estrogen and progesterone can suppress the onset and intensity of premenopausal symptoms.

Health practitioners are encouraged to provide education and counseling to family planning clients, emphasizing the importance of maintaining a healthy lifestyle—including regular exercise, balanced nutrition, and stress management—to mitigate premenopausal symptoms, regardless of contraceptive type.

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