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The Relationship between Duration Of DMPA Use And Sexual Function in Women of Reproductive Age at Independent Practice of Midwife "R"

Citra Ammora Dhea Ayu Puspitasari[1*], Rizki Fitrianingtyas[2]

[1]Student of Department of Midwifery, Faculty of Sciences, Universitas dr. Soebandi, Indonesia
[2]Department of Midwifery, Faculty of Sciences, Universitas dr. Soebandi, Indonesia

***Corresponding Author:**
Citra Ammora Dhea Ayu Puspitasari, midwifery Department Faculty of sciences, Universitas dr. Soebandi, Indoenesia B Building 1nd Floor Kampus Universitas dr. Soebandi, Indonesia, E-mail: citraammora0413@gmail.com , Phone: +6281216744681

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ABSTRAK

Lama Pemakaian DMPA pada WUS > 2 tahun dapat mengganggu fungsi seksual. DMPA dapat mengganggu keseimbangan hormonal alami tubuh, termasuk penurunan kadar estrogen yang dapat menyebabkan libido berkurang sehingga gairah seksual menurun. Dari hasil studi pendahuluan dengan menggunakan kuesioner kepada 10 orang akseptor DMPA yang termasuk WUS (usia 20-35 tahun) di TPMB "R" didapatkan data 60% orang akseptor mengalami gangguan fungsi seksual setelah menggunakan DMPA > 2 tahun dan 40% orang akseptor DMPA tidak mengalami gangguan fungsi seksual setelah menggunakan DMPA ≤ 2 tahun. Gangguan fungsi seksual juga dapat memengaruhi keharmonisan rumah tangga. Penelitian ini bertujuan untuk mengetahui hubungan lama pemakaian DMPA dengan fungsi seksual pada wanita usia subur di TPMB "R". Desain penelitian ini korelasional dengan pendekatan *Cross Sectional*. Populasi penelitian adalah seluruh WUS akseptor DMPA sebanyak 60 orang, sampel 52 responden, didapat dengan teknik *Simple Random Sampling*. Pengumpulan data menggunakan kuesioner FSFI (*Female Sexuale Function Index)* dan analisa data dengan uji *Chi-Square*. Didapatkan hasil penelitian sebagian besar responden telah memakai DMPA > 2 tahun yaitu sebanyak 38 responden (73,1%), hampir seluruh responden mengalami disfungsi seksual sebanyak sebanyak 42 orang (80,8%), dan uji *Chi-Suqare* didapatkan p (0,000) < α (0,05) artinya H0 ditolak, nilai *koefisien kontingensi* 0,570 artinya hubungan sedang, dan nilai *Goodman dan Kruskal Tau* 0,481 artinya ada hubungan sangat bermakna. Dapat disimpulkan bahwa terdapat hubungan yang sedang dan sangat bermakna antara lama pemakaian DMPA dengan fungsi seksual WUS di TPMB "R". Disarankan bagi akseptor DMPA jika pemakaian telah > 2 tahun sebaiknya mengganti dengan kontrasepsi yang lain.

Keywords:
DMPA; Sexual Function; Women of Reproductive Age

ABSTARCT

Duration of DMPA Use in WUS > 2 years can interfere with sexual function. DMPA can disrupt the body's natural hormonal balance, including decreased estrogen levels that can cause decreased libido and decreased sexual desire. From the results of a preliminary study using a questionnaire to 10 DMPA acceptors who included WUS (aged 20-35 years) at TPMB "R", data was obtained that 60% of acceptors experienced sexual dysfunction after using DMPA > 2 years and 40% of DMPA acceptors did not experience sexual dysfunction after using DMPA ≤ 2 years.Sexual dysfunction can also affect household harmony. This study aims to determine the relationship between the duration of DMPA use and sexual function in women of childbearing age at TPMB "R". The design of this study is correlational with a Cross Sectional approach. The study population was all WUS DMPA acceptors totaling 60

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people, a sample of 52 respondents, obtained using the Simple Random Sampling technique. Data collection using the FSFI (Female Sexual Function Index) questionnaire and data analysis using the Chi-Square test. The results of the study showed that most respondents had used DMPA for > 2 years, namely 38 respondents (73.1%), almost all respondents experienced sexual dysfunction as much asas many as 42 people (80.8%), and the Chi-Suqare test obtained p (0.000) < α (0.05) meaning H0 is rejected, the contingency coefficient value of 0.570 means a moderate relationship, and the Goodman and Kruskal Tau value of 0.481 means there is a very significant relationship. It can be concluded that there is a moderate and very significant relationship between the duration of DMPA use and the sexual function of WUS in TPMB "R". It is recommended for DMPA acceptors if they have used it for > 2 years to replace it with another contraceptive.

Introduction

The Family Planning (FP) program is one of the efforts to improve family welfare through controlling childbirth, spacing pregnancies, and optimizing the age for childbirth, initiated by BKKBN (Asriyah et al., 2024). One of the widely used hormonal contraceptive methods is DMPA, known for its effectiveness in preventing pregnancy and ease of use (Sulastriningsih & Mega, 2021). However, long-term use of this injectable contraception can cause hormonal imbalance, especially a decrease in estrogen levels. Decreased estrogen potentially affects the sexual function of women of reproductive age (WUS), such as decreased libido, vaginal dryness, pain during sexual intercourse, and sexual dissatisfaction, which ultimately can disrupt household harmony.

According to WHO (2021), globally, there are 4,000,000 (45%) users of injectable contraception. In the United States, the number of injectable contraceptive users is 30%, while in Indonesia, injectable contraception is one of the popular contraceptives. In Indonesia, the proportion of 3-month injectable contraceptive use is 42.4% (Riskesdas, 2018). The Central Statistics Agency of East Java Province (BPS Jatim) noted that in 2023, based on the type of family planning method used, injectable contraception was the most frequently used method by Couples of Childbearing Age (PUS) at 56.57%. It was also mentioned that in Jember (2023), the number of injectable contraceptive acceptors was 165,626 people. The prevalence of sexual dysfunction varies by country: Turkey (48.3%), Ghana (72.8%), Nigeria (63%), and Indonesia (66.2%); the average prevalence is 58.04%, meaning more than half of Indonesian women are at risk of experiencing sexual dysfunction. Based on previous preliminary studies, the prevalence of sexual dysfunction due to contraception was 68.18%, and the

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incidence of sexual dysfunction in the United States included complaints of decreased sexual desire (64%), sexual arousal disorder (31%), orgasm disorder (35%), and pain (26%) (Garanetha et al., 2024).

According to (Khalid et al., 2020), common disorders in women are lubrication disorder (85.6%), loss of sexual desire (69.7%), and pain (62.9%). Less common disorders are sexual arousal disorder (11.0%), orgasm disorder (9.7%), and satisfaction disorder (7.3%). Due to the side effects of injectable contraception, including those related to sexual function, the number of DMPA acceptors in Jember in January 2023 decreased from 171,012 to 165,626 acceptors. According to research findings (Sri Hadi Sulistiyaningsih & Ike Perdana, 2022), sexual dysfunction is significantly influenced by the majority of respondents using 3- month injectable contraception for > 2 years. Using 3-month injectable contraception for > 2 years carries a significant risk of sexual dysfunction.

From the results of a preliminary study using questionnaires given to 10 acceptors of 3-month injectable contraception who were Women of Reproductive Age (20-35 years old), it was found that 60% of acceptors experienced sexual dysfunction after using 3-month injectable contraception for > 2 years, and 40% of 3-month injectable contraception acceptors did not experience sexual dysfunction after using injections for ≤ 2 years. 60% of acceptors who experienced sexual dysfunction stated that they were lazy and unwilling to have sexual intercourse, because for the past 4 weeks they had no desire and arousal for sexual intercourse. They also said that their household relationships were less harmonious or even not harmonious and they said they rarely communicated with their husbands because for the past 4 weeks they had not had sexual intercourse due to decreased libido, so there was no desire to have sexual intercourse with their husbands.

A study conducted by (Patmahwati, 2018) showed that for duration of injectable contraception use < 24 months, 11% experienced sexual dysfunction and 39% did not experience sexual dysfunction. Meanwhile, for duration of injectable contraception use > 24 months, 47% experienced sexual dysfunction and 3% did not experience sexual dysfunction. The research results of Royhanaty showed a relationship between the duration of DMPA

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hormonal contraceptive use and decreased sexual desire (libido), which usually occurs in injectable contraceptive users for more than 2 years (Royhanaty & Gitanurani, 2017). This is because the longer women use DMPA hormonal injectable contraception, it can lead to an increase in progesterone in the body (Restanty et al., 2022).

Sexuality has a very broad meaning because it covers all aspects related to sex such as behavior, attitudes, orientation, and values (Ningsih & Hamimatus, 2021). Sexual dysfunction is a disorder of sexual behavior or sexual function response. To achieve or maintain a vasocongestive lubrication response until the completion of sexual activity, women can experience persistent or recurrent sexual dysfunction (Asriyah et al., 2024). The reasons why 3-month injectable contraceptive acceptors reported decreased sexual function with a duration of use > 2 years are hormonal changes and vaginal dryness, which cause pain during sexual activity and ultimately decrease libido. Sexual dysfunction is caused by the use of DMPA contraception containing 150 mg of progestin acetate injected IM (Intramuscular) every 3 months for a long period (>2 years), which results in decreased libido. Ideally, estrogen and progesterone hormones cause an increase in the levels of both hormones in the blood. This will be detected by the anterior pituitary and will cause negative feedback by decreasing FSH and LH secretion, and with the presence of progesterone, the inhibitory effect of estrogen will multiply. For a certain period, the body can compensate by increasing estrogen secretion to remain in a normal state and normal sexual process, but in the long term, progesterone will cause body compensation and decreased hormone secretion, especially estrogen, which causes decreased libido (Ainayya et al., 2024).

The impact of sexual dysfunction can affect sexual activity because women believe that with their less elastic genital tissue, they cannot have close relationships with their partners or give them sexual satisfaction (Nurhidayati & Sutarno, 2024). Unfulfilled biological needs encourage couples to commit infidelity, which can lead to divorce (Restanty et al., 2022). Women who experience sexual dysfunction can also be called frigid women. Quoted from KBBI, frigid means lacking sexual desire, because there is no desire to have sexual intercourse. This condition occurs due to failure to achieve orgasm during sexual intercourse

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(anorgasmia) and the presence of pain during sexual intercourse with a partner (Juliana, 2019). Frigidity can also cause other damage to family harmony, such as domestic violence, continuous disputes, and infidelity.

Efforts that can be made to overcome sexual dysfunction caused by the use of 3-month injectable contraception with a duration of use > 2 years include providing complete and accurate information to 3-month injectable contraception acceptors regarding the definition of sexual function, its causes, and how to prevent it, which can be caused by the side effects of using this contraception for > 2 years, such as decreased libido and vaginal dryness. Reducing the duration of 3-month injectable contraception use > 2 years or changing contraceptive methods can also be an appropriate option to avoid sexual dysfunction. Providing more hormone-friendly contraceptive alternatives, such as IUDs or implants, can be a solution for women who experience side effects from 3-month injectable contraception with a duration of use > 2 years (Sri Hadi Sulistiyaningsih & Ike Perdana, 2022). Increased communication in marital relationships is very important to reduce tension and create harmony despite sexual problems (Garanetha et al., 2024). The government's efforts to increase the use of long-term contraceptive methods (MKJP) to curb the population growth rate are by providing outreach and individual counseling from house to house, accompanying and waiting for acceptors until family planning services are completed at health facilities. Couples of Childbearing Age (PUS) can choose contraception according to their conditions and needs based on the information they have understood, including the advantages, disadvantages, and factors affecting contraceptive methods (Kemenkes RI, 2019).

Based on the description above, the researcher is interested in conducting research on the relationship between the duration of 3-month injectable contraception use and sexual function in WUS at TPMB “R”.

Results

This research, conducted in May 2025, is a quantitative study with a correlational (relationship) design using a Cross-Sectional approach. This research was conducted at TPMB "R". The population in

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this study were all Women of Reproductive Age (WUS) at TPMB "R" who were DMPA acceptors, totaling 60 individuals who met the research criteria. The sample in this study consisted of 52 individuals. The sample size was determined using Simple Random Sampling. The method for measuring sexual function used the FSFI (Female Sexual Function Index) questionnaire sheet, which has been validated and reliable, with 6 domains: desire, arousal, lubrication, orgasm, satisfaction, and pain, divided into 19 questions, as this questionnaire is only used for women. Women with an FSFI score < 26.55 were declared to have sexual dysfunction (Meston et al., 2020). The FSFI questionnaire was given to the acceptors to be filled out independently and assisted by the researcher according to what the respondents experienced during the last 4 weeks. Meanwhile, the method to determine whether family relationships were harmonious or not was through interviews, specifically whether communication between husband and wife was still good or not during the last 4 weeks when sexual intercourse did not occur.

This research obtained ethical approval with number: 892/KEPK/UDS/III/2025. During the research process, direct observation was carried out on Women of Reproductive Age by filling out the FSFI questionnaire sheet and conducting structured interviews. After the data was collected, the researcher processed the data using the SPSS version 25 computer program. The statistical analysis in this study included univariate and bivariate analyses. Univariate analysis was used to descriptively describe the frequency distribution and proportion of the independent and dependent variables, namely the duration of DMPA use and sexual function. Bivariate analysis in this study was used to determine the correlation between the duration of DMPA use and sexual function using the Chi-Square statistical test.

General Data

General data that will be discussed in this study with the characteristics of the respondents, namely education and employment.

Table 1. Frequency distribution of respondent age at TPMB "R", Arjasa District, Jember in May 2025

Age	Frequency	Percent (%)
20-35 tahun	52	100,0
Total	**52**	**100,0**

Sumber: Primer 2025

Based on Table 1 above, it can be concluded

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that all respondents were aged 20-35 years, totaling 52 people (100%).

Table 2. Frequency distribution of of respondent parity (number of children) at TPMB "R", Arjasa District, Jember in May 2025

Parity	Frequency	Percent (%)
1 child	16	30,8
2 children	21	40,4
3 children	15	28,8
Total	**52**	**100,0**

Sumber: Primer 2025

Based on Table 2 above, it can be concluded that nearly half of the respondents had a parity of 2 children, totaling 21 people (40.4%).

Table 3. Frequency distribution of respondent's last education at TPMB "R", Arjasa District, Jember in May 2025

Last Education	Frequency	Percent (%)
Elementary School	23	44,2
Junior High School	17	32,7
Senior High School	12	23,1
Total	**52**	**100,0**

Sumber: Primer 2025

ased on Table 3 above, it can be concluded that nearly half of the respondents' last education was Elementary School, totaling 23 people (44.2%).

Table 4. Frequency distribution of respondent's occupation at TPMB "R", Arjasa District, Jember in May 2025

Occupation	Frequency	Percent (%)
Unemployed	17	32,7
Farm Laborer	15	28,8
Entrepreneur	20	38,5
Total	**52**	**100,0**

Sumber: Primer 2025

Based on Table 4 above, it can be concluded that nearly half of the respondents' occupation was entrepreneur, totaling 20 people (38.5%).

Table 5. Frequency distribution of respondent's family relationship at TPMB "R", Arjasa District, Jember in May 2025

Family Relationship	Frequency	Percent (%)
Harmonious	17	32,7
Not Harmonious	35	67,3
Total	**52**	**100.0**

Sumber: Primer 2025

Based on Table 5 above, it can be concluded that most of the respondents' family relationships were not harmonious, totaling 35 people (67.3%).

b. Specific Data

In the data presented specifically, the

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topic discussed was Respondent Characteristics based on Duration of DMPA Use in women of childbearing age.

Table 6. Characteristics of respondents based on duration of DMPA Use at TPMB "R", Arjasa District, Jember in May 2025

Duration of Use	Frequency	Percent (%)
≤ 2 tahun	14	26.9
> 2 tahun	38	73.1
Total	**52**	**100.0**

Sumber: Primer 2025

Based on Table 6 above, it can be concluded that most of the respondents had used DMPA for > 2 years, totaling 38 respondents (73.1%).

Table 7. Respondent Characteristics Based on Sexual Function at TPMB "R", Arjasa District, Jember, in May 2025

Sexual Function	Frequency	Percent (%)
Sexual Dysfunction	42	80,8
No Sexual Dysfunction	10	19,2
Total	**52**	**100.0**

Sumber: Primer 2025

Based on Table 7 above, it can be concluded that almost all respondents experienced sexual dysfunction, totaling 42 people (80.8%).

Discussion

1. Duration of DMPA Use in Women of Reproductive Age at TPMB "R"

Based on the research results, it is known that most respondents used DMPA for more than 2 years. The duration of DMPA use can be influenced by several factors such as age, parity, education, and occupation.

Age has a significant impact on maternal health and can be used to predict when health problems will be diagnosed and what will be done to address them. Injectable contraception or hormonal contraception of the DMPA type in Indonesia is increasingly used by women of reproductive age, i.e., 20-35 years old, due to its effective action, practical use, relatively low cost, and safety (Noviana & Sutarno, 2023). Age can affect the use of contraceptives, specifically for women over 35 years old, which is a phase of ending or stopping pregnancy and is an age at risk for pregnancy. This age difference is due to the fact that adults are more easily able to modify their perceptions and behaviors compared to teenage women because it relates to personality flexibility (Sabina, 2020).

The researcher believes that the age range of 20-35 years is an active

reproductive period, where women are at the peak of fertility and physiologically still have optimal hormonal and sexual functions. Based on the research results, all respondents were between 20-35 years old. In this age range, women tend to have a high level of sexual activity, which encourages the use of contraceptive methods considered effective and efficient, such as DMPA injections.

Based on the research results, nearly half of the respondents had a parity of 2 children. This finding aligns with the research conducted by Sabina (2020), which proves that the majority of fertile age couples using 3-month injectable contraception are mothers at no risk, specifically mothers with less than 2 children, accounting for 76.8%. The Family Planning program itself aims to encourage families to have two children as an ideal number, whether male or female (Sabina, 2020). According to the researcher, the number of children or parity plays an important role in determining the duration of contraceptive use, including DMPA. Respondents with 2 children likely feel that this number is ideal, in line with the objectives of the FP program, leading them to choose not to have more children. This decision encourages them to use long-term contraceptive methods considered effective, practical, and suitable for extended use, such as DMPA.

Based on the research results, nearly half of the respondents' last education was Elementary School. This finding is consistent with a study conducted by Arsesiana et al. (2022), which reveals that a low level of education correlates with a lack of knowledge regarding the side effects of hormonal contraception, including its impact on sexual health. Low education can influence how individuals receive information and make decisions about contraceptive use (Arsesiana et al., 2022). Education has a positive effect on health awareness and directly impacts health behavior. Thus, it is hoped that women of reproductive age with high education levels will have a good understanding of DMPA use (Sabina, 2020).

The researcher believes that a lower level of education contributes to the tendency to continue using a single contraceptive method for a long period, such as DMPA, without much consideration for other alternatives or

potential side effects. The higher the respondent's education level, the easier they are to understand and accept information or advice given. Respondents with low education tend to have limitations in accessing valid and scientific information sources, so decisions regarding contraceptive use are more often based on information from their surroundings, others' experiences, or simply following health workers' recommendations without deep understanding. Therefore, health workers have an important role in providing clear and easily understandable information, especially for those with low educational backgrounds. With good counseling, fertile age couples can make more informed decisions and choose contraceptive methods that suit their needs and health conditions.

Based on the research results, nearly half of the respondents worked as entrepreneurs. Work can affect a person's character, as they have to struggle with the tasks faced in the workplace. Work usually takes up a mother's time, affecting the family. Working mothers choose injectable family planning because it is cheap and simple, and mothers do not have to bother taking medication every day, which would disrupt their work activities. In addition, injectable contraception can be administered by a midwife or at a nearby clinic without needing a prior examination (Mandasari, 2020).

The researcher believes that entrepreneurial work tends to have flexible schedules but still demands high responsibility, thus requiring practical contraceptive methods that do not interfere with daily activities. Mothers who work as entrepreneurs generally prioritize practicality and time efficiency when choosing contraceptives. DMPA is a suitable choice because it only needs to be administered every three months, without requiring routine daily consumption like oral contraceptive pills.

2. Sexual Function in Women of Reproductive Age at TPMB “R”

Based on the results of the study conducted on 52 women of reproductive age at TPMB "R" using the FSFI questionnaire, it was found that almost all respondents experienced sexual dysfunction. This finding indicates a high prevalence of sexual dysfunction among DMPA users.

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DMPA can affect the pituitary, inhibiting the release of FSH & LH, which leads to a decrease in Estrogen hormone and an increase in Progesterone hormone. Progesterone in contraceptives functions to thicken cervical mucus, thereby reducing sperm penetration ability, making the uterine lining thin and atrophic, and inhibiting gamete transport by the tubes. Decreased estrogen levels can cause mood changes and a reduced desire for sexual stimulation. Reduced estrogen hormone will affect androgen hormones, which play a role in the level of libido, and cause vaginal dryness, leading to pain during sexual activity or intercourse (Fitrianingtyas & Christiana, 2022b). Estrogen exerts its effects through interaction with receptors that are members of the nuclear receptor superfamily. There are two different estrogen receptors, ERα and β, which are products of separate genes. ERα, the first receptor discovered, is found in abundant quantities in the female reproductive tract, especially in the uterus, vagina, and ovaries, as well as in mammary glands, hypothalamus, endothelial cells, and vascular smooth muscle. Estrogen must penetrate the cell surface into the cell (cytoplasm) then bind to estrogen receptors. The cytoplasm that forms the hormone-receptor complex at the Estrogen Response Element (ERE) then moves into the cell nucleus to bind to DNA (Fitrianingtyas & Anggraeni, 2019). A significant decrease in estradiol in long-term DMPA users can reduce overall sexual activity (Andryani et al., 2021).

The researcher believes that long-term DMPA use contributes to a decrease in estrogen hormone levels (estradiol), which impacts decreased sexual desire, vaginal dryness, and difficulty achieving orgasm. Hormonal imbalance due to DMPA plays an important role in the decreased quality of reproductive tissues and estrogen receptor expression, which ultimately affects all aspects of sexual function. The high rate of sexual dysfunction in respondents indicates that there is still a gap in understanding and education about the long-term side effects of DMPA. Therefore, it is important for DMPA users, especially those who have used it for > 2 years, to receive education and regular monitoring regarding their sexual function and hormonal status.

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Based on the research results, most of the respondents' family relationships were not harmonious. Sexual dysfunction not only impacts an individual's quality of life but also affects interpersonal relationships, especially within the household. This shows a reciprocal relationship between sexual function and household harmony.

This research aligns with the study by Matondang et al., (2024) which explains that sexual satisfaction greatly contributes to forming household harmony. When a woman experiences sexual dysfunction, she not only feels physically frustrated but also psychologically. Women who do not experience sexual satisfaction tend to avoid intimacy, which in the long run can lead to conflict, feelings of being unappreciated, and decreased emotional closeness with their partners. This can result in low self-confidence, stress, anxiety, and even depression. In the context of couple relationships, this imbalance can be a major trigger for disharmony, infidelity, or even divorce (Daulian et al., 2024).

The researcher believes that the sexual dysfunction experienced by respondents not only impacts themselves but can also disrupt their relationship with their partners. This disharmonious family relationship occurred because when sexual intercourse did not happen, the respondents' partners rarely communicated due to being slightly annoyed. Many respondents may not realize that complaints such as decreased libido, pain during intercourse, or emotional discomfort can be related to long-term hormonal contraceptive use. Due to a lack of knowledge caused by low education levels, they tend to accept the condition without seeking solutions. When a woman feels dissatisfied in a sexual relationship, it can cause frustration, low self-confidence, and even stress and anxiety. If this condition continues, the husband-wife relationship can become strained, they may argue frequently, or feel misunderstood by each other.

3. Relationship Between Duration of DMPA Use and Sexual Function in Women of Reproductive Age at TPMB "R"

Based on the research results using the Chi-Square test, it was shown that there is a relationship between the duration of DMPA use and sexual

function in Women of Reproductive Age at TPMB "R", as measured by the FSFI questionnaire. The longer the duration of DMPA use, the greater the likelihood of women experiencing sexual dysfunction.

The mechanism of DMPA injection has a long duration of action and is slowly absorbed from the injection site. Peak serum MPA concentrations of 1-7 ng/ml are reached by the third week after injection. The maximum concentration of MPA hormone in the blood, ranging from 1-7 ng/ml, is usually achieved around 3 weeks after injection. After that, the hormone levels will gradually decrease and become undetectable within 120-200 days after a 150 mg single-dose administration. Long-term use of DMPA can lead to a decrease in blood estradiol levels. Approximately 70% of women who have used DMPA will regain fertility within 1-2 years after discontinuation. A history of DMPA use is closely related to the risk of sexual dysfunction in family planning acceptors. Long-term use, especially > 2 years, can worsen the decrease in estradiol, leading to health problems such as decreased bone density, irregular or complete cessation of menstruation (amenorrhea), and sexual dysfunction, such as decreased sexual desire, which can affect the quality of intimate relationships (Trisdayanti et al., 2023). Sexual function in women is assessed using the Female Sexual Function Index (FSFI) instrument, which covers six domains: desire, arousal, lubrication, orgasm, satisfaction, and pain. Long-term DMPA use risks causing a decrease in all these domains (Daulian et al., 2024).

The researcher believes that the longer a woman uses DMPA, the greater the risk of experiencing sexual dysfunction due to a decrease in estrogen hormone levels, especially estradiol, which occurs gradually and continuously. DMPA works by suppressing ovulation through a strong progestin effect. In the long term, this effect inhibits the body's production of estrogen hormone, which has a direct impact on women's sexual function, as this hormone plays an important role in maintaining sexual desire, vaginal moisture (lubrication), and physiological response to sexual stimulation. When estrogen levels decrease for a long period, as in DMPA use > 2 years, women tend to experience decreased libido, vaginal dryness causing

pain during sexual intercourse (dyspareunia), and difficulty achieving orgasm.

This research aligns with the study conducted by (Noviana & Sutarno, 2023) which states that the duration of contraceptive use (>24 months) has a 1.20 times higher risk of experiencing sexual dysfunction compared to contraceptive use ≤ 24 months. The use of 3-month injectable contraception for > 1 year can result in changes in libido. This is because the longer an acceptor uses injectable contraception, the more progesterone can accumulate in the body. The maximum duration of DMPA use is 2 years, so after more than 2 years of use, it needs to be considered to switch to another contraceptive method (Viera Valencia & Garcia Giraldo, 2019). The hormonal effect on libido with long-term DMPA use (up to two years) can disrupt the balance of estrogen and progesterone hormones in the body, leading to normal cell changes becoming abnormal (Sri Hadi Sulistiyaningsih & Ike Perdana, 2022). Excessive progesterone accumulation will lead to increased estrogen levels, so testosterone hormone in women will not be formed, resulting in decreased female sexual desire (Widiayanti et al., 2024).

According to the researcher, the longer the duration of DMPA use contributes to increased sexual dysfunction due to the accumulation of progesterone hormone in the body, which disrupts the balance of female reproductive hormones. Continuously injected progesterone hormone in the body over the long term causes estrogen levels to become unstable, affecting libido and overall sexual function. In addition, the researcher sees that this hormonal influence not only has a biological impact but can also affect a woman's psychological aspects. Changes in sexual desire, pain during intercourse, and difficulty achieving orgasm often cause anxiety, lower self- confidence, and trigger stress in household relationships. If not recognized or addressed, this has the potential to lead to a decrease in quality of life and couple relationship satisfaction.

Conclusion

1. Most respondents had used DMPA for > 2 years, totaling 38 respondents (73.1%).

2. Almost all respondents experienced sexual dysfunction, totaling 42 people (80.8%).
3. From the Chi-Square analysis, a p-value of 0.000 was obtained, which is < α (0.05), meaning H0 is rejected. The Contingency Coefficient value is 0.570, indicating a moderate relationship, and the Goodman and Kruskal Tau value is 0.481, indicating a very significant relationship. Therefore, there is a moderate and very significant relationship between the duration of DMPA use and sexual function in Women of Reproductive Age at TPMB "R" as measured using the FSFI (Female Sexual Function Index) questionnaire.

Ethics Approval and Consent to Participate

This research has received an ethical feasibility test at dr. Soebandi with number: No.892/KEPK/UDS/I/2025.

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