

The Relationship Between The Use of 3-Monthly Injection Contraception and The Incidence of Amenorrhea

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Abstract, Background: Three-monthly injectable contraception is one of the most commonly used hormonal contraceptive methods due to its effectiveness, practicality, and high acceptance among women of reproductive age. However, its use is frequently associated with menstrual changes, particularly amenorrhea, which may affect user satisfaction and continuity of contraceptive use. Objective: This study aimed to analyze the relationship between the use of 3-monthly injectable contraception and the incidence of amenorrhea among women of reproductive age. Methods: This study employed a quantitative approach with an analytical observational design using a cross-sectional method. The study was conducted at a primary healthcare facility providing family planning services. A purposive sampling technique was applied to select respondents who met the inclusion criteria. Data were collected using a structured questionnaire and supported by a review of medical records. The Chi-square test was used to analyze the relationship between contraceptive use and the incidence of amenorrhea, with a significance level set at $p < 0.05$. Results: The results showed that more than half of the respondents experienced amenorrhea. Amenorrhea was more frequently observed among women who had used 3-monthly injectable contraception for more than one year. Statistical analysis revealed a significant relationship between the duration of 3-monthly injectable contraceptive use and the incidence of amenorrhea ($p < 0.05$). Conclusion: There is a significant relationship between the use of 3-monthly injectable contraception and the occurrence of amenorrhea. These findings emphasize the importance of providing comprehensive counseling regarding potential menstrual changes to improve contraceptive acceptance and continuity.

Keywords: 3-Monthly Injectable Contraception, Amenorrhea, Family Planning, Hormonal Contraception, Women Of Reproductive Age.

1. INTRODUCTION

Family planning programs play a crucial role in improving maternal and child health by enabling couples to regulate fertility, prevent unintended pregnancies, and reduce maternal morbidity and mortality. One of the most widely used contraceptive methods in developing countries is injectable contraception due to its effectiveness, convenience, and high acceptance among women of reproductive age (WHO, 2022).

Among injectable contraceptives, the three-month injectable contraceptive containing depot medroxyprogesterone acetate (DMPA) is particularly popular. This method is favored because it does not require daily compliance, is relatively affordable, and can be used safely by breastfeeding mothers (Bahamondes et al., 2020).

Despite its advantages, the use of three-month injectable contraception is often associated with various side effects, especially menstrual disturbances. Changes in menstrual patterns such as irregular bleeding, spotting, prolonged bleeding, and amenorrhea are frequently reported by users and may influence their satisfaction and continuation rates (Hubacher & Trussell, 2019).

Amenorrhea, defined as the absence of menstruation for three consecutive months or more, is one of the most common effects experienced by long-term users of injectable contraception. Although medically considered a benign and reversible condition, amenorrhea is often perceived negatively by women due to cultural beliefs and misconceptions regarding reproductive health (Kaunitz, 2021).

Physiologically, amenorrhea among DMPA users occurs as a result of prolonged suppression of ovulation and endometrial thinning caused by continuous progesterone exposure. This hormonal mechanism disrupts the normal menstrual cycle and leads to the absence of menstrual bleeding over time (Belsey et al., 2020).

In many communities, menstruation is viewed as an indicator of health and fertility. Therefore, the absence of menstruation may generate anxiety, fear of infertility, or concerns about accumulated “dirty blood,” which can negatively affect women’s psychological well-being and confidence in contraceptive use (Chandra-Mouli et al., 2019).

Several studies have reported that menstrual changes, particularly amenorrhea, are among the leading reasons for discontinuation of injectable contraceptives. Discontinuation may increase the risk of unintended pregnancy, closely spaced births, and adverse maternal outcomes (Ali et al., 2021).

Although amenorrhea is a known side effect of three-month injectable contraception, many women initiate its use without adequate counseling regarding potential menstrual changes. Limited knowledge and insufficient communication from health providers often contribute to misunderstanding and dissatisfaction with the method (Hassan et al., 2020).

Previous research has primarily focused on the effectiveness and continuation rates of injectable contraception, while fewer studies have specifically examined the relationship between three-month injectable contraceptive use and the occurrence of amenorrhea in a community-based setting, particularly in primary healthcare services.

Furthermore, existing studies show inconsistent findings regarding the onset and prevalence of amenorrhea among users. Some studies suggest that amenorrhea increases with duration of use, while others report varied patterns influenced by individual biological and behavioral factors (Polis et al., 2018).

This inconsistency highlights a research gap concerning the magnitude of amenorrhea incidence and its association with the use of three-month injectable contraception. Local data are essential to understand contextual factors such as health education, cultural perceptions, and access to counseling services.

In many primary healthcare settings, contraceptive counseling tends to emphasize effectiveness rather than side effects. As a result, women may feel unprepared to manage menstrual changes, leading to fear, non-compliance, or early discontinuation of the contraceptive method (Bruce, 2019).

Addressing this issue requires evidence-based research that explores the relationship between three-month injectable contraceptive use and amenorrhea. Such research can provide valuable information for healthcare providers to improve counseling strategies and patient education.

Improved counseling that includes clear explanations about amenorrhea as a normal and reversible effect of injectable contraception may help reduce anxiety, increase user satisfaction, and promote sustained contraceptive use (WHO, 2022).

From a public health perspective, understanding the relationship between injectable contraception and amenorrhea is essential to support informed contraceptive choice and ensure the success of family planning programs.

Therefore, this study aims to analyze the relationship between the use of three-month injectable contraception and the occurrence of amenorrhea. The findings are expected to contribute to evidence-based midwifery practice, enhance contraceptive counseling quality, and support women in making informed decisions regarding their reproductive health.

2. RESEARCH METHOD

Study Design, This study employed a quantitative research approach with an analytical observational design. A cross-sectional method was used to examine the relationship between the use of three-month injectable contraceptives and the incidence of amenorrhea at a specific point in time. This design was chosen because it allows the researcher to identify associations between variables efficiently without manipulating the study conditions.

The study was conducted at a primary healthcare facility that provides family planning services. The study population consisted of women of reproductive age who were active users of hormonal contraceptive methods, particularly three-month injectable contraception. This population was selected due to the high prevalence of injectable contraceptive use in primary healthcare settings.

The sample included women who met the inclusion criteria, such as being current users of three-month injectable contraception for at least one injection cycle and willing to participate in the study. Women with a history of pregnancy, menopause, or reproductive disorders affecting menstruation were excluded. The sampling technique used was purposive sampling

to ensure that respondents were relevant to the research objectives. The sample size was determined based on feasibility and the availability of eligible participants during the study period.

The independent variable in this study was the use of three-month injectable contraception, while the dependent variable was the occurrence of amenorrhea. Data were collected using a structured questionnaire and supported by medical record review to confirm contraceptive use and menstrual history. Amenorrhea was defined as the absence of menstruation for three consecutive months or more after using injectable contraception.

Data analysis was performed using statistical software. Descriptive analysis was used to present respondent characteristics, while inferential analysis, such as the Chi-square test, was applied to determine the relationship between injectable contraceptive use and amenorrhea. Statistical significance was set at a p-value of less than 0.05. Ethical approval was obtained from the relevant ethics committee, and informed consent was secured from all participants prior to data collection to ensure confidentiality and voluntary participation.

3. RESULTS AND DISCUSSION

SPSS Results Tables

Table 1. General Characteristics of Responden.

No	Characteristics	Frequency (f)	Percentage (%)
1	Age		
	20–29 years	26	43.3
	30–39 years	34	56.7
2	Education Level		
	Primary–Secondary	38	63.3
	Higher Education	22	36.7
3	Parity		
	Primiparous	19	31.7
	Multiparous	41	68.3
4	Duration of Contraceptive Use		
	≤ 1 year	21	35.0
	> 1 year	39	65.0

Interpretation

The majority of respondents were aged 30–39 years, had primary to secondary education, were multiparous, and had used 3-monthly injectable contraception for more than one year.

Table 2. Distribution of Amenorrhea Incidence.

Amenorrhea Status	Frequency (f)	Percentage (%)
Amenorrhea	36	60.0
No Amenorrhea	24	40.0
Total	60	100

Interpretation

More than half of respondents experienced amenorrhea after using 3-monthly injectable contraception.

Table 3. Relationship Between 3-Monthly Injectable Contraceptive Use Duration and Amenorrhea.

Duration of Use	Amenorrhea	No Amenorrhea	Total	p-value
≤ 1 year	7 (33.3%)	14 (66.7%)	21	0.002
> 1 year	29 (74.4%)	10 (25.6%)	39	
Total	36	24	60	

Interpretation

Statistical analysis using the Chi-square test showed a significant relationship between the duration of 3-monthly injectable contraceptive use and the incidence of amenorrhea ($p < 0.05$).

DISCUSSION

The findings indicate that most respondents were within the reproductive age range of 30–39 years, which is consistent with the demographic profile of active family planning users. Women in this age group often prioritize effective and long-term contraception due to completed or nearly completed family size.

The predominance of respondents with primary to secondary education suggests that injectable contraception remains a preferred method among women with limited access to detailed reproductive health information. This highlights the importance of effective counseling to ensure informed contraceptive choices.

Most respondents were multiparous, indicating that women with previous childbirth experience are more inclined to choose injectable contraception. This choice is often influenced by prior exposure to family planning services and trust in healthcare providers.

The majority of participants had used 3-monthly injectable contraception for more than one year. Prolonged use increases exposure to progesterone, which is known to influence menstrual cycle changes, including amenorrhea.

The incidence of amenorrhea was observed in 60% of respondents, demonstrating that menstrual suppression is a common outcome among users of 3-monthly injectable contraception. This finding aligns with previous studies reporting amenorrhea as a frequent side effect of long-term hormonal contraceptive use.

Amenorrhea among injectable contraceptive users occurs due to the suppression of ovulation and progressive thinning of the endometrial lining. Continuous hormonal exposure reduces endometrial proliferation, resulting in the absence of menstrual bleeding.

The analysis revealed that respondents who used injectable contraception for more than one year experienced amenorrhea more frequently than those with shorter duration of use. This supports the theory that amenorrhea prevalence increases with prolonged hormonal exposure.

Statistical testing confirmed a significant relationship between the duration of 3-monthly injectable contraceptive use and the incidence of amenorrhea. This indicates that longer use is a strong contributing factor to menstrual changes.

These results are consistent with earlier research demonstrating that amenorrhea is more common after repeated DMPA injections. Over time, the cumulative hormonal effect leads to sustained suppression of the menstrual cycle.

Despite being clinically safe, amenorrhea is often perceived negatively by users due to cultural beliefs and misconceptions. Many women associate menstruation with bodily cleansing and reproductive health, leading to anxiety when menstruation ceases.

Inadequate counseling regarding menstrual changes may contribute to dissatisfaction and discontinuation of injectable contraception. Women who are not informed about amenorrhea may mistakenly perceive it as a pathological condition.

Healthcare providers play a crucial role in addressing these concerns through comprehensive counseling. Clear explanations about amenorrhea as a normal and reversible side effect can improve user satisfaction and continuation rates.

Overall, the study demonstrates a significant relationship between the use of 3-monthly injectable contraception and the occurrence of amenorrhea. These findings emphasize the need for evidence-based counseling and improved communication strategies in family planning services.

The findings of this study indicate a significant relationship between the use of 3-monthly injectable contraception and the occurrence of amenorrhea among users. A higher proportion of women using this contraceptive method experienced the absence of menstruation compared to those who had used it for a shorter duration or had recently initiated use. This result supports existing evidence that menstrual changes are among the most common side effects associated with long-acting hormonal contraceptives, particularly injectable formulations.

From a physiological perspective, 3-monthly injectable contraception contains depot medroxyprogesterone acetate (DMPA), which works primarily by suppressing ovulation through inhibition of gonadotropin release. Continuous exposure to progesterone also leads to thinning of the endometrial lining, which reduces or eliminates menstrual bleeding over time. As a result, amenorrhea is considered a predictable pharmacological effect rather than a pathological condition in most users.

The incidence of amenorrhea tends to increase with the duration of injectable contraceptive use. Women who have used the 3-monthly injection for more than one year are more likely to experience complete cessation of menstruation compared to new users. This pattern suggests that prolonged hormonal suppression progressively alters the hypothalamic–pituitary–ovarian axis, reinforcing the contraceptive’s long-term effect on menstrual regulation.

Although amenorrhea is medically safe for most women, the condition is often perceived negatively by users due to cultural beliefs, fear of infertility, or concerns about hidden health problems. In this study, several respondents expressed anxiety related to the absence of menstruation, which highlights the importance of adequate counseling prior to contraceptive initiation. Misunderstanding of side effects may lead to dissatisfaction and discontinuation of the method.

These findings align with previous studies reporting that injectable contraceptive users frequently experience menstrual disturbances, with amenorrhea being the most common outcome after repeated injections. However, some women view amenorrhea as a beneficial effect due to reduced discomfort, lower risk of anemia, and improved convenience. This variation in perception emphasizes that individual acceptance of amenorrhea is influenced by knowledge, counseling quality, and personal expectations.

Based on the study results, it can be argued that the relationship between 3-monthly injectable contraception and amenorrhea is both clinically expected and scientifically explainable. Therefore, health care providers—especially midwives—play a crucial role in delivering comprehensive contraceptive counseling. Clear explanation about possible menstrual changes, including amenorrhea, may improve user satisfaction, promote method continuation, and support informed decision-making in family planning services.

4. CONCLUSION

This study concludes that the use of 3-monthly injectable contraception is significantly associated with the incidence of amenorrhea among women of reproductive age. The findings demonstrate that amenorrhea occurs more frequently in women who use 3-monthly injectable contraception for a longer duration, indicating that prolonged exposure to hormonal contraceptives contributes to changes in menstrual patterns.

Furthermore, amenorrhea, although clinically harmless and reversible, remains a common concern among contraceptive users due to limited understanding and cultural perceptions regarding menstruation. These results highlight the importance of comprehensive contraceptive counseling that emphasizes potential menstrual changes, including amenorrhea, to improve user satisfaction, reduce anxiety, and promote sustained use of injectable contraception. The study underscores the need for healthcare providers to deliver evidence-based information to support informed decision-making in family planning services.

Acknowledgement

The authors would like to express their sincere gratitude to all parties who contributed to the completion of this study. Special appreciation is extended to the management and healthcare staff of the study site for their support and cooperation during the data collection process. The authors are also grateful to all respondents who willingly participated in this research and shared valuable information. Furthermore, sincere thanks are conveyed to colleagues and academic mentors who provided constructive feedback and guidance throughout the research process. Their contributions were instrumental in ensuring the successful completion of this study.

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