

OVERVIEW OF THE INCIDENCE OF SIDE EFFECTS AMONG IMPLANT CONTRACEPTIVE USERS AT THE PURWANEGARA I COMMUNITY HEALTH CENTER, BANJARNEGARA REGENCY

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ABSTRACT

Background: Implant contraception is one of the most effective long-term contraceptive methods and is widely used by women of reproductive age. Despite its effectiveness, implant use may cause several side effects due to the influence of progestin hormones, including menstrual disorders, weight gain, and acne. Side effects that are not managed appropriately may reduce user satisfaction and increase the risk of discontinuation. **Objectives:** This study aimed to describe the incidence of side effects among implant contraceptive acceptors based on age, parity, and duration of use at Purwanegara I Public Health Center, Banjarnegara Regency. **Methods:** This study employed a quantitative descriptive design with a cross-sectional approach. The population consisted of 179 implant contraceptive acceptors, and 45 respondents were selected using purposive sampling. Data were collected through medical records and observation sheets. Data analysis was performed using univariate analysis to obtain frequency distributions and percentages. **Results:** The study results indicate that the most common side effect experienced by contraceptive implant users was weight gain (reported by 24 respondents or 53.3%), followed by spotting (19 respondents or 42.2%) and menorrhagia (14 respondents or 31.1%). Weight gain was most frequently observed among respondents aged 20–35 years, multiparous women, and those with a duration of use exceeding two years. **Conclusions:** Implant contraceptive use may result in various side effects, particularly weight gain and menstrual disorders. Proper counseling, education, and routine monitoring by healthcare providers are important to improve user comfort and continuation of implant contraceptive use.

Keywords: Implant Contraception, Side Effects, Acceptors, Menstrual Disorders; Weight Gain

INTRODUCTION

Family Planning (KB) is a method used to reduce the Maternal Mortality Rate (MMR) by spacing pregnancies and managing the number of children (Nugraheni et al., 2025). The family planning program is a strategic measure designed to regulate family size, determine birth intervals, and establish the ideal age for childbirth. These efforts are implemented through promotion, protection, and service provision, enabling individuals to exercise their reproductive rights and ultimately form a high-quality family (Kamaruddin et al., 2020).

Contraception is a key component of family planning programs aimed at spacing births, reducing unintended pregnancies, and improving maternal and child well-being. One of the most widely used long-term contraceptive methods is the contraceptive implant. The contraceptive implant is a highly effective and practical form of Long-Acting Reversible Contraception (LARC) that provides long-term protection against pregnancy. It works by slowly releasing the hormone progestin into the body, thereby inhibiting ovulation, thickening cervical mucus, and thinning the endometrium to prevent pregnancy (Triwahyuningsih et al., 2025).

According to data from the World Health Organization (WHO), the global use of contraceptive implants remains lower than that of other contraceptive methods, such as injections, pills, condoms, and IUDs. The percentage of women using contraceptive injections stands at 35.3%, pills at 30.5%, and IUDs at 15.2%, whereas implants account for only about 7.3% (Yyanzi et al., 2023). In Indonesia, 2024 data from the National Population and Family Planning Board (BKKBN) indicate that 61.7% of couples of reproductive age use modern contraceptives; injectable contraceptives are the most widely used method (35.6%), followed by contraceptive pills (7.5%), contraceptive implants (6.9%), and IUDs (6.1%) (Faharuddin et al., 2025). Meanwhile, data from the Banjarnegara Regency Health Office for 2024 show that contraceptive implants rank second in usage—following pills—with a coverage rate of 14.9% (Dinas Kesehatan Kabupaten Banjarnegara, 2024).

The high uptake of contraceptive implants is driven by their high efficacy and long duration of action—lasting up to three years or more. However, their use can lead to various hormonal side effects that affect the user's comfort. Commonly observed side effects include menstrual irregularities—such as oligomenorrhea, amenorrhea, spotting, and menorrhagia—as well as weight gain and acne. These side effects arise from the action of the progestin hormone, which can alter a woman's reproductive hormonal balance (Kartini et al., 2025). Previous studies indicate that changes in menstrual patterns occur most frequently during the first year of implant use, particularly within the initial 6–12 months (Laelah & Aprilina, 2020). Additionally, users often experience weight gain due to alterations in lipid metabolism and increased appetite driven by the progesterone hormone (Astuti et al., 2023).

Side effects that are not properly managed can cause discomfort and increase the risk of discontinuing the use of contraceptive implants before their effective period expires. A study conducted at PMB Erna Wati showed that some users discontinued implant use due to weight gain, menstrual irregularities, and changes in facial skin (Sari et al., 2024). Beyond hormonal factors, the occurrence of side effects is also influenced by age, the number of children, and the duration of implant use. Women of reproductive age (20–35 years) who already have more than one child tend to choose long-term contraceptive methods, such as implants, because they are considered more effective and practical (Sholichah & Lathifah, 2022).

Preliminary studies in the service area of the Purwanegara I Community Health Center (Puskesmas) in Banjarnegara Regency indicate that implant users still experience various side effects, such as spotting, amenorrhea, weight gain, and other menstrual irregularities. These findings highlight the importance of research into the incidence of side effects among implant

contraceptive users so that healthcare workers—particularly midwives—can improve the quality of counseling, education, and monitoring for these users. Therefore, this study was conducted to describe the incidence of side effects among implant contraceptive users in the service area of the Purwanegara I Community Health Center, Banjarnegara Regency.

METHODS

This study employed a quantitative descriptive research design with a cross-sectional approach. The research was conducted at Purwanegara I Public Health Center, Banjarnegara Regency, from January 3 to January 30, 2026.

The study population consisted of 179 implant contraceptive acceptors registered at the health center. A total of 45 respondents were selected using purposive sampling based on predetermined inclusion and exclusion criteria.

The variables observed in this study included the incidence of side effects among implant contraceptive users and respondent characteristics, namely age, parity, and duration of implant use. Data were collected from medical records and observation sheets.

Data processing involved editing, coding, tabulation, data entry, and data cleaning. Univariate analysis was conducted to determine the frequency distribution and percentage of each variable. The results are presented in tables and narrative descriptions.

RESULTS AND DISCUSSIONS

The results of the study titled "Overview of the Incidence of Side Effects Among Implant Contraceptive Users at Puskesmas Purwanegara I"—conducted from January 3 to January 30, 2026, at Puskesmas Purwanegara I with a sample of 45 respondents—are as follows:

Table 1. Profile of the characteristics of implant contraceptive acceptors in the working area of Puskesmas Purwanegara I

Karakteristik	f	%
Usia		
20-35 tahun	32	17,1
>35 tahun	13	28,9
Total	45	100,0
Paritas		
Primipara	11	24,4
Multipara	33	73,3
Grandemultipara	1	2,2
Total	45	100,0

Lama pemakaian		
<1 tahun	24	53,3
1-2 tahun	12	26,7
>2 tahun	9	20,0
Total	45	100,0

Based on Table 1, the majority of respondents fell into the 20–35 age group (32 respondents, or 71.1%), while 13 respondents (28.9%) were over the age of 35. Regarding parity, the majority were multiparous (33 respondents, or 73.2%), followed by primiparous (11 respondents, or 24.4%) and grand multiparous (1 respondent, or 2.2%). In terms of the duration of contraceptive implant use, the majority of respondents (24 respondents, or 53.3%) had used the implant for less than one year.

Table 2. Overview of the occurrence of side effects among contraceptive implant users in the working area of the Purwanegara I Community Health Center.

Efek samping	f	%
Oligomenorea	7	15,6
Amenorea	12	26,7
Spotting	19	42,2
Menorrhagia	14	31,1
Jerawat	2	4,4
Peningkatan berat badan	24	53,3

Based on Table 2, the most common side effects experienced by implant contraceptive users were weight gain (reported by 24 respondents, or 53.3%), spotting (19 respondents, or 42.2%), and menorrhagia (14 respondents, or 31.1%).

Table 3. Profile of contraceptive implant side effects based on age, parity, and duration of use in the working area of Puskesmas Purwanegara I.

- Distribution of contraceptive implant side effect incidents by age in the working area of Purwanegara I Community Health Center (n=45)

Efek samping	Usia			
	20-35 tahun		>35 tahun	
	f	%	f	%
Oligomenorea	5	15,6	2	15,4

Amenorea	10	31,3	2	15,4
Spotting	16	50,0	3	23,1
Menorrhagia	9	28,1	5	38,5
Jerawat	1	3,1	1	7,7
Peningkatan berat badan	17	53,1	7	53,8
Total	32		13	

Based on Table 4.3, the most frequently observed side effects in the 20–35 age group were weight gain (17 respondents; 53.1%), spotting (16 respondents; 50.0%), and amenorrhea (10 respondents; 31.3%). In the age group over 35 years, the most common side effects were weight gain (7 respondents; 53.8%) and menorrhagia (5 respondents; 38.5%).

- b. Distribution of contraceptive implant side effects based on parity in the working area of Purwanegara I Community Health Center (n=45)

Efek samping	Paritas					
	Primipara		Multipara		Grandemultipara	
	f	%	f	%	f	%
Oligomenorea	1	9,1	6	18,2	0	0,0
Amenorea	5	45,5	6	18,2	1	100,0
Spotting	4	36,4	15	45,5	0	0,0
Menorrhagia	4	36,4	10	30,3	0	0,0
Jerawat	0	0,0	2	6,1	0	0,0
Peningkatan berat badan	6	54,5	18	54,5	0	0,0
total	11		33		1	

Based on Table 4, the most frequently observed side effects in the primiparous group were weight gain (6 respondents; 54.5%) and amenorrhea (5 respondents; 45.5%). In the multiparous group, weight gain was experienced by 18 respondents (54.5%) and spotting by 15 respondents (45.5%).

- c. Distribution of contraceptive implant side effect occurrences based on duration of use in the working area of Puskesmas Purwanegara I (n=45)

Efek samping	Lama pemakaian					
	<1 tahun		1-2 tahun		>2 tahun	
	f	%	f	%	f	%
Oligomenorea	2	8,3	2	16,7	3	33,3
Amenorea	5	20,8	4	33,3	3	33,3
Spotting	12	50,0	3	25,0	4	44,4
Menorrhagia	7	29,2	6	50,0	1	11,1
Jerawat	0	0,0	0	0,0	2	22,2
Peningkatan berat badan	8	33,3	7	58,3	9	100,0
total	24		12		9	

Based on Table 4.5, among the group with <1 year of use, the most frequently observed side effects were spotting (12 respondents; 50.0%) and weight gain (8 respondents; 33.3%). Meanwhile, in the group with 1–2 years of use, the observed side effect was menorrhagia (6 respondents; 50.0%). Among those with >2 years of use, weight gain was the predominant side effect (9 respondents; 100.0%).

DISCUSSION

The findings of this study indicate that weight gain was the most frequently reported side effect among implant contraceptive acceptors. This finding is consistent with the mechanism of progestin hormones contained in contraceptive implants. Progestin may increase appetite and influence carbohydrate and fat metabolism, leading to increased body weight among users. Previous studies have also reported that weight gain is one of the most common reasons for discomfort among implant users.

Menstrual disorders were also frequently reported, including amenorrhea, spotting, menorrhagia, and oligomenorrhea. These side effects occur because progestin alters endometrial development and affects hormonal balance within the reproductive system. Changes in endometrial thickness and vascularization may result in irregular bleeding patterns, particularly during the first year of implant use.

Most side effects were observed among women aged 20–35 years. This finding may be related to the fact that the majority of implant users in this study belonged to the reproductive age group. Women in this age range are more likely to choose long-acting reversible contraceptives because they are effective, practical, and suitable for birth spacing.

Based on parity, multiparous women reported more side effects than primiparous and grandemultiparous women. Multiparous women generally prefer long-term contraceptive methods after achieving their desired family size. Consequently, a greater number of implant users in this category may explain the higher frequency of reported side effects.

Regarding duration of implant use, respondents who had used implants for less than one year experienced more side effects than long-term users. This finding supports previous evidence suggesting that hormonal adaptation commonly occurs during the first 6–12 months after implant insertion. During this period, users frequently experience menstrual irregularities and other hormonal side effects. Over time, the body gradually adapts to hormonal changes, resulting in improved tolerance and reduced complaints.

One strength of this study is that it provides a comprehensive description of side effects experienced by implant contraceptive acceptors in the local community setting. However, this study is limited by its descriptive design, which does not allow determination of causal relationships between respondent characteristics and the occurrence of side effects.

CONCLUSIONS

Based on the results of the study on the description of side effects among contraceptive implant acceptors in the working area of Puskesmas Purwanegara I, it can be concluded that most respondents were in the age group of 20–35 years, were multiparous, and had used contraceptive implants for more than one year.

The most common side effect experienced by implant users was weight gain, followed by spotting and menorrhagia, while the least common side effect was acne.

Based on respondent characteristics, weight gain was most frequently experienced by respondents aged 20–35 years and those with multiparity. Meanwhile, spotting was more commonly found among respondents with implant use of less than one year.

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

HMD : contributed to the conception and design of the study, data collection, data curation, methodology, formal analysis, interpretation of data, and drafting of the original manuscript. The author also contributed to the review and final approval of the manuscript. AH: Supervision, methodology, validation, writing review and editing. SRSP: Supervision, methodology, validation, writing review and editing. DEH: Resources, visualization, writing review and editing.

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