An Overview of Side Effects on Post-Placental IUD Acceptors by Independent Practice Midwives in Jembrana Regency

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Abstract
Objective: Women who have given birth three or more times will be advised to use the Long-Acting Reversible Contraceptives (LARCs) to avoid the risk of complications in both mother and baby. One of the most widely used LARCs is the Intrauterine Device (IUD); however, the use of IUDs in Indonesia is recorded low. IUD acceptors in Couples of Childbearing Age in Indonesia in 2022 were still very low, i.e., 7.7% of the total 27.3 million couples, while data in Bali Province in 2022 showed the number of IUD users with a percentage of 32.3% of the total 777,016 couples; while in Jembrana Regency, it was 23.6% of the total 48,471 couples. The insertion of a post-placental IUD is one of the opportunities to prevent unplanned or unwanted pregnancies. This research was conducted to get an overview of side effects on Post-placental IUD acceptors conducted by Independent Practice Midwives in Jembrana Regency.
Methods: This study uses descriptive research describing post-placental IUD acceptors by independent practice midwives. The samples include 75 data obtained from the delivery register of Independent Practice Midwives in Jembrana Regency who served postpartum IUDs from January 2021 to November 2024.
Results: The characteristics of post-placental IUD acceptors are 76% at the age group of 20-35 years and 77.3% working mothers or taking care of the household. Moreover, 78.7% completed secondary education, 62.7% have more than one child, and 60% have used IUDs for more than 1 year. IUDs were reported to cause long period of menstruation (13.3% of respondents), cause abdominal pain (9.3% of respondents), have respondents to replace IUDs with other contraceptive methods (8% of respondents), and experience expulsion.
Conclusion: Post-placental IUD insertion by Independent Practice Midwives in Jembrana Regency is effective resulting in low side effects, expulsion, and failure.

Keywords: Post-placental IUD, Side effects, Failure

Gambaran Eefek Samping Pada Akaseptor IUD Pasca-Plasenta oleh Bidan Praktek Mandiri di Kabupaten Jembrana

Abstrak
Tujuan: Ibu yang melahiran tiga kali atau lebih akan disarankan menggunakan Metode Kontrasepsi Jangka Panjang (MKJP) karena berisiko mengalami komplikasi baik pada ibu maupun bayi. Salah satu MKJP yang banyak digunakan adalah *Intra Uterine Device* (IUD). Namun, pengguna IUD secara nasional masih rendah. Akseptor IUD pada pasangan usia subur (PUS) di Indonesia tahun 2022 masih sangat rendah yaitu 7,7% dari total 27.3 juta PUS, sedangkan data di Provinsi Bali tahun 2022 menunjukkan jumlah pengguna IUD dengan persentase 32,3% dari total 777.016 jumlah Pasangan Usia Subur (PUS), dan di Kabupaten Jembrana 23,6% dari total 48.471 jumlah PUS. Pemasangan IUD pasca-plasenta menjadi salah satu kesempatan untuk mencegah terjadinya kehamilan yang tidak direncanakan atau dikehendaki. Penelitian ini dilakukan agar mendapat gambaran efek samping pada akseptor IUD pasca-plasenta yang dilakukan oleh Bidan Praktik Mandiri di Kabupaten Jembrana.
Metode: Penelitian ini merupakan penelitian deskriptif dari data akseptor IUD pasca-plasenta yang dipasang oleh Bidan Praktik Mandiri (BPM). Sampel yang digunakan adalah 75 sampel dengan data didapatkan dari register persalinan Bidan Praktik Mandiri di Kabupaten Jembrana yang melayani IUD pascasalin rentang Januari 2021-November 2024.
Hasil: Karakteristik akseptor IUD pasca-plasenta didapatkan menurut usia 76% merupakan wanita usia subur kelompok usia 20 - 35 tahun, dan 77,3 % sebagai ibu bekerja mengurus rumah tangga. Sebanyak 78,7% menyelesaikan pendidikan paling banyak adalah level menengah, menurut jumlah anak 62.7% merupakan multipara, dan 60% telah memakai IUD lebih dari 1 tahun. Efek samping penggunaan IUD dilaporkan haid yang lama, yaitu sebanyak 13.3 % responden dan nyeri perut sebesar 9.3% responden. Sedangkan kegagalan IUD menyebabkan 8% responden mengganti IUD dengan metode kontrasepsi lain dan 1.3% responden mengalami ekspulsi.
Kesimpulan: Pemasangan IUD pasca-plasenta oleh Bidan Praktik Mandiri di Kabupaten Jembrana efektif dengan efek samping, ekspulsi, dan kegagalan yang rendah.

Kata kunci: Efek samping, IUD Pasca-plasenta, Kegagalan

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Introduction

Unplanned pregnancy cases are reportedly very high when nonuse of contraception is chosen after childbirth, especially for working women who immediately have to work, making them having rare breastfeeding. Likewise, active sexual partners do not use contraception because they are afraid of side effects. Nonuse of contraception methods will have a higher chance of getting pregnant soon after giving birth. Having contraceptive methods in the weeks after childbirth (puerperium) goes a long way in avoiding unplanned or unwanted pregnancies. [1]

A new study conducted by the World Health Organization (WHO) in 36 countries found that two-thirds of sexually active women who want to delay or limit fertility stop using contraceptives because they are afraid of its side effects and health problems and underestimate the possibility of conception. This leads to one in four unwanted pregnancies. Many experts recommend waiting at least 18 months between pregnancies before having another baby. In 2021, there were around 1.9 billion women of childbearing age (15-49 years old) around the world, and 1.1 billion of them needed family planning. Of this number, 874 million women used modern contraceptive methods, and 164 million women could not meet their needs for modern contraception.[2] The world's population is increasing with each passing day due to high growth accompanied by uneven distribution. Indonesia is ranked fourth highest density in the world, with a population growth rate of 1.17% per year, and in 2022, Indonesia's total fertility rate was recorded at 2.1.[3]

Postpartum mothers are asked to follow the postpartum mother service package, including family planning services. Family planning is a step to reduce the population rate, prevent maternal and infant deaths, shorten births, prevent unwanted pregnancies, and maintain child distance. The right family planning to overcome this problem is to use long-active reversible contraceptive methods.[3,4] For women who give birth more than three times, there is a higher risk of experiencing complications for both the mother and the baby. Planning and managing the distance between the next child is very important to maintain the health of the mother and child. Providing family planning services, especially long-acting reversible contraceptives (LARC) is part of postpartum care, one of which is the Intrauterine Device (IUD) or Intrauterine Contraceptive Device (IUCD).[5] IUD acceptors in couples of childbearing age in Indonesia in 2022 are still very low, namely 7.7% of the total 27.3 million. Meanwhile, data in Bali Province in 2022 shows the number of IUD acceptors was 32.3% of 777,016, while in Jembrana Regency, it was recorded at 23.6% of the total 48,471.[6,7] IUDs have several advantages, including being safe, cheap, reversible, very effective in preventing pregnancy, which is up to 99.9%, and does not affect breast milk production during the lactation process.[8]

IUD consists of two types: hormonal and nonhormonal IUDs. The commonly available hormonal IUD is the levonorgestrel IUD (LNG IUD), which is a T-shaped device consisting of a cylinder containing 52 mg of levonorgestrel, with an average release of 14 µg of levonorgestrel every 24 hours during its lifetime. The LNG IUD has an effective duration of up to 5 years. This LNG IUD has side effects of less bleeding on menstruation, irregular menstruation or even no menstruation at all, pain due to installation, and string disturbance during intercourse. However, LNG has no pain in the breasts and bacterial infections in the vagina, making the users are satisfied. This LNG IUD can be a solution for users who are bothered by heavy and long menstruation and severe abdominal pain. In addition to the contraceptive effect, hormonal

IUDs have non-contraceptive effects that can be used to treat menorrhagia, endometriosis, and endometrial hyperplasia.[9,10] The non-hormonal IUDs include spiral-shaped (Lippes Loop), T-shaped (Copper T), fan-shaped (Multi Load), and number 7 (Copper 7) as the stem is wrapped with copper. Copper-T IUD type or T-shaped IUD is made of polyethylene material where the vertical part is wrapped with fine copper. This fine copper wire has a fairly good anti-fertilization effect. Non-hormonal IUDs have an active period of up to 10 years, but the side effects that can generally bother users are longer and heavier menstruation and stomach cramps. Copper T has a greater risk of expulsion compared to LNG IUDs[1,10,11]

IUDs can be installed at post-placenta and after the postpartum or interval period. Post-placental IUD insertion is done after 10 minutes of placental birth or within 48 hours after the placenta is born. IUD insertion at this time is possible when the cervix is still open, larger, and softer, making it easier to install and causing minimal pain. Meanwhile, interval IUDs are inserted after 4 weeks postpartum.[12,13]

A systematic study of the literature by Rosa Bolling states that IUD insertion has several effects or obstacles, such as abdominal pain, long and abundant menstruation, and even pregnancy, even though it is recorded as low. However, the expulsion rate is relatively high in the first 3 months, up to 41%.[1] The same was also expressed by Alam et al. in Pakistan, who stated that 3 out of 110 mothers with Post-placental IUDs declared expulsion after 10 weeks of insertion.[8] In fact, according to the results of a study by Marangoni et al. (2021) in Brazil, expulsion tends to be higher in mothers who give birth normally than by cesarean section.[10]

This research was conducted to get an overview of side effects on Post-placental IUD acceptors conducted by Independent Practice Midwives in Jembrana Regency.

Method

This study is descriptive research with a cross-section approach. The population of this study is all mothers who deliver their babies in Independent Practice Midwives in Jembrana Regency. The sample was selected using the total sampling method following the inclusion and exclusion criteria. The inclusion criteria include all mothers who had given birth, had the CuT 380A IUD installed for at least 1 month and a maximum of 5 years, and were recorded in the birth register. Meanwhile, the exclusion criteria were incomplete data. A total of six Independent Practice Midwives provide childbirth services and postpartum IUD insertion. From the register, 75 samples of mothers who received postpartum IUD services were collected and included in this study. The secondary data of this study were obtained from the birth register at six Independent Practice Midwives in Jembrana Regency from January 2021 to November 2024. Data collection was recorded in Excel and then processed with SPSS ver. 22 univariately. The results of the SPSS test were then presented in the form of tables and narrative elaboration.

Results

From January 2021 to November 2024, 75 samples were collected from the register of mothers who received postpartum CuT 380A IUD services and were involved in this study. The profiles of the post-placental IUD acceptors are presented in Table 1.

Table 1 shows that post-placental IUD acceptors by independent practice midwives in Jembrana Regency was dominated by the age group of 20-35 years old (80%), followed by < 20 years old and > 35 years old (20%). Furthermore, 77% work to take care of the household and 86.7% graduated from upper secondary education. According to the number of children owned, 62.7%

Table 1 Characteristics of Post-Placental IUD Acceptors by Independent Practice Midwives in Jembrana Regency.

Characteristics	Number (n)	Percentage (%)
Age		
<20 years	3	4.0
20-35 years old	60	80.0
>35 years old	12	16.0
Occupation		
Civil Servant	3	4.0
Private	14	18.7
Housewife	58	77.3
Education		
Basic	10	13.3
Intermediate	59	78.7
Diploma/Bachelor	6	8.0
Parity		
Primipara	18	24.0
Multipara	47	62.7
Grand multipara	10	13.3
Length of use		
< 1 year	30	40.0
≥ 1 year	45	60.0
Total	75	100.0

Table 2 Overview of Side Effects of Post-Placental IUD Insertion by Independent Practice Midwives in Jembrana Regency.

Side effects	Yes		Not		Total	
	n	%	n	%	n	%
Vaginal discharge	5	6.7	70	93.3	75	100
Abdominal pain	7	9.3	68	90.7	75	100
Long menstruation	10	13.3	65	86.7	75	100
Uncomfortable during sexual intercourse	5	6.7	70	93.3	75	100
Itching on the genitals	1	1.3	74	98.7	75	100

are multipara while 13.3% are grand multipara. Most of them (60%) have been using IUDs for more than 1 year.

It is very important to respond to the onset of side effects felt by IUD acceptors. Side effects caused by IUDs insertion and other methods will affect the sustainability of their use. Table 2 shows that the most common side effects experienced by respondents include long menstruation (13.3% of respondents) followed by cramps or abdominal pain (9.3% of respondents).

IUD failure is often conveyed in the occurrence of pregnancy, even though the IUD is still being used. However, failures of post-placental IUDs insertion by independent practice midwives in Jembrana Regency include expulsion by 1.3% of respondents. The expulsion rate of Post-placental IUD acceptors in Jembrana Regency is quite low, only 1.3%.

Table 3 shows that 6 (8%) acceptors removed the IUD and replaced it in another method. The contraceptive method change

Table 3 Post-Placental IUD Acceptor Failure by Independent Practice Midwives in Jembrana Regency

Failure	Yes		Not		Total	
	n	%	n	%	n	%
Expulsion	1	1.3	74	98.7	75	100
Change way	6	8	69	92	75	100

was due to complaints of abdominal pain (4 respondents) and heavy and long menstruation period (2 respondents).

Discussion

IUDs have many advantages over other types of contraception. However, IUDs have some side effects. The CuT 380A IUD is as effective as a tubectomy and is designed for long-term use of up to 10 years. However, some women discontinue using it due to unwanted side effects. In general, the users experience symptoms related to abdominal pain or cramps and complaints of heavy bleeding during the first year of use. Suindri et al. (2023) found that 51.3% of CuT 380A IUD users in Denpasar City complained of vaginal discharge after 42 days of use.[14] This can affect preference, acceptance, satisfaction, and continuation of contraceptive use.[15] Meanwhile, Nwala et al. (2022) conducted a study in Nigeria on the LNG IUD, stating that users felt dissatisfied with the side effects of less bleeding during menstruation or even amenorrhea due to local norms and believed that women's nature must experience regular menstruation every month. Moreover, pain and discomfort during sex due to the IUD string have also been reported.[9] Furthermore, Bolling et al. (2023) reported that expulsion complications in the first year of the CuT 380A IUD were higher than those in the LNG IUD. Infections due to IUD insertion have also been reported, such as pelvic inflammatory disease and cervicitis. Symptoms of cervicitis can include heavy, smelly vaginal discharge, vaginal itching, pain during intercourse, and even bleeding after sexual contact. In addition, severe cervicitis can lead to pelvic inflammatory disease.[1]

Characteristics of Post-placental IUD Acceptors Age

The research data shows that the majority (80%) of post-placental IUD respondents are 20-35 years old, which is a healthy reproductive age for a woman. Most pregnancies and deliveries occur in the 20-35-year age group, so post-placental IUD acceptors are also the most common in this age group. Productive age tends to have a better fertility rate, better physical condition, and a more minimal risk of complications compared to < 21-years-old and >35-years-old. Although 20-35-years-old is the recommended age group to get pregnant; thus, it is very important to plan for the next pregnancy. IUDs are considered wrong when the choice to keep the child from being too close can even prevent couples of childbearing age from experiencing unwanted pregnancies.[14] IUD is a long-term non-hormonal contraception. Therefore, if the couple wants to have another child, IUD can be removed at any time, and the mother can return to fertility.[16] This is in contrast to research by Isnaeni et al. (2022) in Banyumas, stating that the older the mother, the higher the interest in using IUD.[11]

Occupation

Many studies have shown that there is an influence of economic status on the mother's interest in using IUD. IUD acceptors and prospective IUD acceptors are still affected by misinformation about IUD

contraception. The status of household care jobs tends to use IUDs more by 77.3%. This can be related to income status because they do not have a fixed income, so they want to limit the number of children. IUD contraceptives can also be obtained for free at Independent Practice Midwives because they are covered by BPJS.[17] This result is different from the research by Rahmi et al. in Aceh Jaya (2017), which states that the lower the income level, the lower the interest of couples to use IUDs because they tend to be expensive.[18] The role of health workers is very important in educating prospective acceptors to have a correct understanding of IUD contraception, including providing information on the medical feasibility of the IUDs insertion.

Education

Table 1 shows that most (86.7%) of postpartum IUD acceptors have upper secondary education. A sufficient level of education helps the client or acceptors choose IUD as a long-term contraceptive method. Thus, allowing the mother and her baby to have a better level of health. This can be seen from the data in Table 1 that 78.7% of post-placental IUD acceptors have a secondary level of education, and 8% have a high level of education.

This is in line with research conducted by Damayanti et al. (2023) in Merakurak Tuban, which states that there is a relationship between education level and the choice of postpartum IUD contraceptive method. The high level of education will affect the decision in determining the contraceptive method. The higher the level of education and the higher the knowledge, the easier it will be to receive and absorb information related to family planning programs.[19] Research by Anik et al. (2022) in several countries in Asia and Africa with lower middle-income states that with a good level of education, women will find it easier to determine their right to reproduce with modern contraceptive methods.[20]

However, on the contrary, respondents who only have primary education (13.3%) need a special approach in counseling or *informed choice* to make choices that are in accordance with their medical eligibility.

Parity

Table 1 shows that 97.3% of post-placental IUD acceptors are multipara. The more women have children, the greater the motivation to use LARCs, especially IUD contraceptives. This was also found in a study by Meilani et al. (2021) in Sleman, which stated that mothers who have two or more children assessed that long-term contraceptive methods, one of which is IUD, are more effective in preventing the occurrence of unwanted pregnancies.[21] Research by Maryati et al. (2016) in Cimahi also revealed that multipara respondents are more likely to choose IUDs as their contraceptive choice because the higher the parity, the higher the mother's desire to limit births.[22]

Length of using

Table 1 shows that most (60%) respondents have used post-placental IUDs for > 1 year. The length of using IUD affects subjective complaints that are perceived as side effects of the contraceptives. Research by Kusuma (2017) in Sidoarjo stated that the use of contraceptives ≤ 5 years had a 7.82 times risk of experiencing health-related subject complaints compared to respondents who used > 5 years. IUD removal within 1 year is due to pain and bleeding, as shown in about 4–15% of respondents. However, this will decrease with the longer the IUD is used.[16] Research by Sanders et al. (2018) in Utah also stated that side effects such as long periods and abdominal cramps were reported to decrease after 6 months of IUD insertion,

and acceptor satisfaction with the IUD would increase.[15]

Overview of Side Effects of Post-Placental IUD Use

Table 2 shows that the most common side effects experienced by respondents include long menstruation (13.3% of respondents) followed by cramps or abdominal pain (9.3% of respondents). The same results were also obtained by Chin-Quee et al. (2021) in Senegal that most women complained of menstrual cycle changes as a side effect that were difficult to tolerate, causing 11.2% of respondents to stop using IUDs within the first year.[23] The results of the study by Goswami et al. (2015) in India also stated that 6.66% of post-placental IUD acceptors complained of bleeding alone, 6.66% of acceptors complained of abdominal pain, and 20% complained of bleeding and pain in the abdomen.[24]

Other complaints that were rarely felt by respondents include vaginal discharge and discomfort during intercourse by 6.7% of respondents and itching in the genitals by 1.3% of respondents.

Overview of Post-Placental IUD Failure

Table 3 shows that 6 (8%) acceptors removed the IUD and replaced it in another method. The contraceptive method change was due to complaints of abdominal pain (4 respondents) and heavy and long menstruation period (2 respondents). Research by Pandey (2015) in India also stated that 42.6% of respondents removed IUDs due to heavy and long menstruation accompanied by severe abdominal pain. Meanwhile, 12.8% changed IUDs because of their husband's advice.[25] Expulsion was also recorded as low, and only 1 respondent (1.3%) complained in this study. This study is in contrast to a study in Brazil by Marangoni et al. (2021) which stated that the rate of post-placental IUD expulsion is very high, namely 27.1% and 43.8% of them experience expulsion after vaginal delivery.[10] Post-placental IUD expulsion can occur because the uterus is still large, so the IUD may likely be pushed out when the uterus returns to its normal size.[14] Moreover, IUD expulsion generally occurs during menstruation and can be influenced by several factors such as age and parity. Old age and low parity, i.e., less than 3, have a greater risk of experiencing expulsion. Expulsion often occurs in the first 3 months of use.[5] The expulsion also depends on the experience and abilities of trained health workers.[8]

Conclusion

Post-placental IUD insertion by Independent Practice Midwives in Jembrana Regency is classified as effective because of its low side effects and failures. As many as 80% of post-placental IUD acceptors by Independent Practice Midwives in Jembrana Regency are in the productive age group (20-35 years). Most of them work as housewives, have completed high secondary education, are multipara, and have been using IUDs for more than 1 year.

The most reported side effects were long menstruation (13.3%), abdominal pain (9.3%), followed by vaginal discharge (9.3%), as well as discomfort during sex (9.3%), and finally itching in the genitals (1.3%).

Although many experienced side effects, only 6 respondents (8%) decided to switch the contraceptive method to another method, and only 1 (1.3%) respondent experienced expulsion.

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Conflict of interest

All authors have no conflict of interest

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Author Contribution

All authors are involved in the entire research process, including preparation, data collection and processing, analysis, and the publication stage.

References

1. Rosa Bolling K, Wahdan Y, Warnock N, et al. Utilisation, Effectiveness, and Safety of Immediate Postpartum Intrauterine Device Insertion: A Systematic Literature Review. BMJ Sex Reprod Health. 2023;49(2):E1.
2. WHO. Metode Perencanaan Keluarga. WHO.int. 2024;
3. Misransyah, Risal S, Khariry M, et al. Building trust through quality of service mediated with satisfaction to acceptors of family planning in the province of South Kalimantan. Heliyon 2023;9(2).
4. Tran NT, Seuc A, Tshikaya B, et al. Effectiveness of post-partum family planning interventions on contraceptive use and method mix at 1 year after childbirth in Kinshasa, DR Congo (Yam Daabo): a single-blind, cluster-randomised controlled trial. Lancet Glob Health 2020;8(3):e399–e410.
5. Jayanti R, Palarto Soeharto B, Amarilisa Adespin D. Keberlangsungan Akseptor IUD Pasca Persalinan Pervaginam di RSUP Dr. Kariadi. Jurnal Kedokteran Diponegoro 2019;8(3):1037–1049.
6. Kementerian Kesehatan. Profil Kesehatan Indonesia 2022. 2023;
7. Dinas Kesehatan Provinsi Bali. Profil Kesehatan Provinsi Bali Tahun 2022 [Homepage on the Internet]. Denpasar: Available from: www.diskes.baliprov.go.id.
8. Alam K, Snover A, Sultana N. Safety and feasibility of intrauterine device insertion following post-placental delivery. Rawal Medical Journal 2014;39(2):186–189.
9. Nwala A, Udoh E, Anyanti J, Fajemisin A. Continuation and User Satisfaction of the Levonorgestrel Intrauterine System (LNG IUS) Contraceptive in Nigeria. Gates Open Res 2022;6:4.
10. Marangoni M, Laporte M, Surita F, Kraft MB, Bahamondes L, Juliato CRT. One-year Follow Up on Post-Placental IUD Insertion: A Randomized Clinical Trial. Acta Obstet Gynecol Scand 2021;100(4):596–603.
11. Isnaeni S, Fridayanti W. Hubungan Umur dengan Minat Penggunaan Kontrasepsi IUD pada Wanita Usia Subur. Jurnal Publikasi Kebidanan 2022;13(2):43.
12. Ramos-Rivera M, Averbach S, Selvaduray P, Gibson A, Ngo LL. Complications after interval postpartum intrauterine device insertion. Am J Obstet Gynecol 2022;226(1):95.e1-95.e8.
13. Noriani NK, Yulia Rewsati Teja A, Sri Ariyantini P. Gambaran Pengguna KB IUD Pada Ibu Pasca Melahirkan. JRKN 2017;01(01):70–74.
14. Suindri NN, Erawati NLPS, Somoyani NK, Sriasih NGK, Darmapatni MWG, Suarniti NW. Post Placental Iud Expulsion And Side Effects In Denpasar City. 2023;213–224.
15. Sanders JN, Adkins DE, Kaur S, Storck K, Gawron LM. Bleeding, Cramping, and Satisfaction among New Copper IUD Users: A Prospective Study. PLoS One 2018;13(11).
16. Kusuma N. Relationship Between Method and Duration of Contraception Usage to Subjective Health Complaints. Jurnal

Berkala Epidemiologi 2017;4(2):164.
17. Kementerian Kesehatan. Standar Tarif Pelayanan Kesehatan dalam Penyelenggaraan Program Jaminan Kesehatan. Jakarta: 2023;
18. Rahmi N, Andriani M, Husna A. Analisis Faktor yang Berhubungan dengan Minat Akseptor KB Menggunakan Alat Kontrasepsi Dalam Rahim (AKDR) di Desa Keude Panga Kabupten Aceh Jaya. 2017;
19. Damayanti TY, Zulaikha LI, Wulandari T. The Correlation Of Women of Childbearing Age' Education And Work With Use Of Internal Contraceptive Devices (IUD). 2023;
20. Anik AI, Islam MR, Rahman MS. Association between socioeconomic factors and unmet need for modern contraception among the young married women: A comparative study across the low- and lower-middle-income countries of Asia and Sub-Saharan Africa. PLOS Global Public Health 2022;2(7).
21. Meilani M, Astuti DA. The Correlation Between Parity and Husband's Support with the Choice of Intra-Uterine Device Contraception at Work Area of Sleman Health Center. PJMHS 2021;15(2):575–578.
22. Maryati S, Indriani S. Hubungan Umur dan Paritas Ibu dengan Penggunaan Kontrasepsi IUD Tahun 2016. Jurnal Kesehatan Rajawali 2016;11(1).
23. Chin-Quee D, Diadhiou M, Eichleay M, et al. How Much Do Side Effects Contribute to Discontinuation? A Longitudinal Study of IUD and Implant Users in Senegal. Front Glob Womens Health 2021;2.
24. Goswami G, Yadav K, Patel A. A Prospective Studt to Evaluate Safety, Efficacy and Expulsion Rate of Post Placental Insertion of Intra Uterine Device. J Evol Med Dent Sci 2015;4(56):9770–9774.
25. Pandey D, Tiwari S. Study of pattern related to side effects and removal of IUCD usage. Int J Community Med Public Health 2015;2(2):172.