



Analysis of factors related to the high choice of injectable contraceptives by acceptors

Mandhareta Setyabudhi ^{1*}, Elvine Ivana Kabuhung ¹, Iwan Nuwindry ²,
Novita Dewi Iswandari¹

¹Department of Midwifery, University of Health, Sari Mulia University, Banjarmasin, Indonesia

²Department of Pharmacy, University of Health, Sari Mulia University, Banjarmasin, Indonesia

*Corresponding author: mandhareta95@gmail.com

ARTICLE INFO

Article history:

Received 11 May 2024

Accepted 01 August 2024

Publish 12 August 2024

Keywords:

Injectable contraceptives

Family planning

Contraceptive choice

Reproductive health

Demographic factors

ABSTRACT

Background: Three-monthly injectable contraception is a contraceptive method that works by releasing the hormone progesterone into the bloodstream. The impact of using injectable contraception is that menstrual disorders are often found, and fertility is delayed by four to five months. In 2023, 37.3% of acceptors chose three-monthly contraceptive injections, 18.4% pills, 15.2% implants, 14.2% monthly injections, 8.6% intrauterine device, 6.1% condoms, and tubectomy of 0.4%.

Objective: Analysis of factors related to the high choice of injection contraceptives by acceptors.

Method: Quantitative analytical survey research with a cross-sectional approach was conducted to assess age groups, education levels, parity, level of knowledge, and attitudes in choosing injectable contraception. Data were collected using a questionnaire and analyzed using the Chi-square and Fisher's exact tests.

Results: The largest number of contraceptive acceptors were 20 people of early childbearing age, 26 people with elementary and middle school education, 27 people with multipara, 22 people with good knowledge, and 30 people with a positive attitude. The choice of contraceptive device is related to age ($p=0.021$), education level ($p=0.021$), parity ($p=0.017$), level of knowledge ($p=0.009$), and attitude ($p=0.024$) of the acceptor.

Conclusion: Age, education level, parity, level of knowledge, and attitudes are factors that influence the choice of injectable contraceptive acceptors.

This is an open-access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



1. Introduction

1.9 billion women in the globe who are between the ages of 15 and 49 in 2021, 1.1 billion will require family planning; 874 million of these will use contemporary methods of contraception, while 164 million will still need to use contraception (United Nations



Department of Economic and Social Affairs, Population Division, 2022). The 2017 Indonesian Demographic and Health Survey report found that the percentage of injections contraceptives used was 29%. It is the birth control method most frequently used by women, followed by pills (12%), birth control implants and IUDs (intrauterine devices) (5% each), and tubectomy (4%) (Badan Kependudukan dan Keluarga Berencana Nasional [BKKBN], Badan Pusat Statistik [BPS], Kementerian Kesehatan, United States of Agency for International Development [USAID], 2018). The results of family data collection in 2022 by the BKKBN show that 59.9% of couples of childbearing age use contraception in Indonesia. The use of injectable contraceptives was 61.9%, pills were 13.5%, implants and IUDs were 10.6% and 7.7% respectively, condoms were 2.3%, and others <1% (Ministry of Health Indonesia Republic, 2023).

According to data from the BPS (Badan Pusat Statistik [id]; Central Statistics Agency[en]) – Statistics of East Kalimantan Province (2022), the total use of contraception in East Kalimantan was 53.02%. This figure means that out of 100 couples of childbearing age in East Kalimantan, 53 couples use contraception. Overall, the percentage of contraceptive use in East Kalimantan has increased compared to 2021, amounting to 48.54%. This increase shows that the awareness of the people of East Kalimantan about the importance of family planning is increasing. The most widely used method in East Kalimantan is the three-month injection contraceptive, which is 37.3%. This contraceptive method is followed by the pill, which is 22.0%, and the IUD, which is 11.0%.

Three-month injectable contraception is a contraceptive method that works by releasing the hormone progesterone into the bloodstream. This progesterone hormone will prevent ovulation, namely the release of egg cells from the ovaries. Apart from that, the hormone progesterone will also thicken the mucus in the cervix, making it difficult for sperm to penetrate the uterus. Three-month injectable contraception is given every 3 months by medical personnel. This injection can be given in the upper arm, buttocks, or thigh. 3-month injectable contraception has high effectiveness, reaching 99%. This effectiveness means that out of 100 women who use three-month injectable contraception, only one woman will get pregnant within a year (Affandi, 2013).

The impacts of using injectable contraceptives include frequent menstrual disorders, clients being dependent on health service facilities, cannot be stopped at any time before the



next injection, does not guaranteeing protection against sexually transmitted infections. In addition, it can also cause a delay in fertility for four to five months because injectable contraception works by disrupting the body's hormonal system because the injection drug has not been released from the depot (injection site), long-term use of more than two years will cause estrogen deficiency which can cause vaginal dryness, reduced libido, emotional disturbances (rare), headaches, nervousness, acne, and increased risk of osteoporosis, and weight problems (Saifuddin, 2016). Three-month injectable contraception has side effects, however, according to the World Health Organization (WHO), 2015, there are several basic reasons why women still choose it, including because it is safer, more practical, does not affect the amount of breast milk production, can help increase appetite, reduces menstrual problems, no need to take pills every day, it can reduce the risk of various diseases.

The high use of contraceptive acceptors in choosing 3-month injectable contraceptives cannot be separated from factors related to contraceptive acceptors in choosing contraception. Research by Puspasari et al., (2022), shows that the choice of three-month injectable contraception is influenced by various factors, but the most significant are age ($p=0.02$) and parity ($p=0.03$). Asmariyah's research (2021) shows that the factors that influence the choice of depo-provera injectable contraceptive are age ($p=0.011$), number of children desired ($p=0.001$), husband's support ($p=0.006$) and availability of contraceptives ($p=0.019$); while education, parity, employment and economics do not influence the choice of depot injectable contraceptives.

Each choice of contraception has several side effects, but they can be controlled, such as understanding the pattern of changes in the menstrual cycle, maintaining diet and exercise patterns so that weight does not increase, understanding fertility times, dealing with lubricants if the vagina feels dry during intercourse, consulting a doctor if you experience headaches, breast pain and mood changes, have scheduled consultations to control bone density, always maintain facial cleanliness if acne occurs, and avoid sexual transmission diseases (STDs) by using condoms (Saifudin, 2016). This study aims to analyze the factors associated with the high choice of injectable contraceptives by acceptors.

2. Methods

Research design

This research is a quantitative analytical survey research with a cross-sectional



approach. This approach was used to be able to analyze the relationship between observed factors and the high choice of injectable BK observed at the same time and place. The independent variables studied for respondents included age, level of education, parity, level of knowledge and attitudes.

Sample size

Research respondents were collected through purposive sampling at the company's health facility, Kebun Clinic, Borneo Indah Marjaya Ltd. and Palma Plantasindo Ltd. Acceptors were collected through purposive sampling at the company's health facility, Kebun Clinic, Borneo Indah Marjaya Ltd. & Palma Plantasindo Ltd. The total number of acceptors who participated was 43 respondents. The inclusion criteria used in this study were:

- 1) Acceptors are willing to take part in the entire series of research
- 2) Aged 20 to 45 years
- 3) Domiciled in the Borneo Indah Marjaya Ltd housing complex. & Palma Plantasindo Ltd.

Meanwhile, the exclusion criteria are for acceptors who have a chronic medical history such as cancer, haemophilia, hypertension, heart disease, and diseases that require other intensive treatment.

Data collection

Data was collected through interviews with acceptors at the Kebun Clinic using questionnaires. The questionnaire was designed to obtain information on variables of ages (classified into early reproductive age [20 - 29 y.o], middle reproductive age [30 - 39 y.o], near the menopause [40-49 y.o]), educational levels (primary to junior high school, senior high school, higher education), parities (primipara, multipara), level of knowledge (good, sufficient, poor), attitudes (positive, negative), and injectable contraceptive options (three-month birth control injection [yes], one-month family planning injection [no]).

Data analysis

Data ordinals are presented descriptively through frequency distributions and percentages. Inferential analysis was carried out using the Chi-square and Fisher's exact test. The analysis software used is the Statistical Package for the Social Sciences (SPSS).

Ethical consideration

This research has received ethical clearance from the Research Ethics Commission, Sari Mulia University, with number 145/KEP-UNISM II/2024. This research has received



permission to carry out implementation from Kebun Clinic, Borneo Indah Marjaya Ltd. and Palma Plantasindo Ltd. Respondents who participated were given a complete and clear explanation regarding the research to be carried out. The research carried out will not have a negative impact on them, but can be part of improving public health at large. Respondents realized that there was no compulsion in research activities, and they could give up their intention to take part in the activity or withdraw whenever they wanted. Respondents who participated have provided informed consent, and the researchers guarantee the confidentiality of their identities.

3. Results

Respondent demographics

The six characteristics of respondents observed in this study are presented in Table 1. The distribution of respondents in the early reproductive age group and middle reproductive age group was the highest with percentages that were not much different, namely 46.5% and 41.9% or only two respondents differed. The highest level of education of respondents was elementary and junior high school which reached 60.5%. Respondents generally had experienced more than one live birth or were multiparous with a percentage reaching 62.8%. Respondents generally had a good level of knowledge with a percentage of 51.2%, or around twice as high as those with sufficient or poor knowledge. The positive attitude of respondents towards using three-monthly injectable contraception reached 30 people or 69.8% compared to those who chose monthly injectable contraception. However, 31 people or 72.1% had the option to choose three-month injection contraception.

Table 1. Demographics of respondent

Characteristics	Frequency (Respondents)	Percentages (%)
Ages (y.o)		
20 – 29	20	46.5
30 – 39	18	41.9
40 – 49	5	11.6
Education levels		
Elementary to junior high school	26	60.5
Senior high school	15	34.9
Higher education	2	4.7
Parities		
Primipara	16	37.2
Multipara	27	62.8
Level of knowledges		
Good	22	51.2
Sufficient	9	20.9



Poor Attitude	12	27.9
Positive	30	69.8
Negative	13	30.2
Injectable contraceptive options		
Three-monthly family planning injection	31	72.1
Monthly family planning injection	12	27.9

Factors influencing the choice of three-month injectable contraception

Analysis of the factors studied shows that there is an influence on the choice of injectable contraception. All factors studied show a relationship with the choice of injectable contraception. This is shown by all the p-values of the observed factors being less than 0.05. The results of the analysis can be seen in Table 2.

Table 2. Analysis of determining factors for the choice of injectable contraception using Chi-square and Fisher exact tests

Characteristics	Injectable contraceptive options				p-values
	3-monthly (acceptors)	Percentages (%)	Monthly (acceptors)	Percentages (%)	
Ages (y.o)					0.021 ^a
20 – 29	18	41.9	2	4.8	
30 – 39	9	20.9	9	20.9	
40 – 49	4	9.3	1	2.3	
Education levels					0.021 ^a
Elementary to junior high school	23	53.5	3	7.0	
Senior high school	7	16.3	8	18.6	
Higher education	1	2.3	1	2.3	
Parities					0.017 ^b
Primipara	15	34,9	1	2,3	
Multipara	16	37,2	11	25,6	
Level of knowledges					0.009 ^a
Good	20	46.6	2	4.7	
Sufficient	6	14.0	3	7.0	
Poor	5	11.6	7	16.3	
Attitude					0.024 ^b
Positive	25	58.1	5	11.6	
Negative	6	46.2	7	16.3	

Notes: ^a is the result of analysis using the Chi-square test; ^b is the result of analysis using the Fisher exact test.

4. Discussion

The research results show that the age of injectable contraceptive acceptors is mostly early reproductive age, with as many as 20 respondents (46.5%). The age factor is very important in determining the use of contraception because age determines a person's reproductive level. For women, the ideal age is between twenty and thirty years, because at this age their reproductive organs are ready and mature enough to conceive and give birth. If viewed from a rational perspective, the use of contraceptives in the order of IUDs, implants,



injections, birth control pills and condoms is recommended just for thirty years to prevent pregnancy (Hartanto, 2017).

Age is used by family planning acceptors to conceive or space out or control their fertility. Therefore, the age factor also influences their contraceptive choices. To achieve the goal of the Family Planning program to reduce the birth rate, it intended to divide pregnancy into three stages: delaying or preventing pregnancy, spacing pregnancies, and breaking or terminating pregnancies. For couples of childbearing age with a wife's age under 20 years, the maintaining pregnancy phase is important because at this age the risk of pregnancy increases and is a failure of the program (Hartanto, 2017). Hasnani (2019) stated that reproductive age can influence the use of contraceptives because they are considered effective and comfortable. At 31 – 40 y.o, the average mother has more than one child, so mothers are more likely to choose contraceptives that are effective for a long period without side effects. This can also be seen in the research results, that this age group has a high choice of three-monthly contraceptive injections. Contraception in early reproductive age tends to be more common than in older age groups. This assumes that adolescents and young adults have an urgent need for contraception and may be more open to contraceptive use and that access to reproductive health services may be better among those in early reproductive age, or that social, economic, or certain culture. influence their decision to use contraception.

Based on the age group in selecting contraceptive injections, the majority of respondents in the early reproductive age group tended to choose three-monthly contraceptive injections, namely 18 (41.9%) compared to 2 (74.8%) respondents who chose monthly contraceptive injections. Meanwhile, respondents of middle age and those approaching menopause each showed similarity in their choice of three-monthly injections or monthly injections. The results of the Chi-square test obtained a p-value of 0.021, which shows that age influences the choice of injectable contraceptives. Similar results were also shown from research by Sardevi and Sembiring, (2023); Magdalena et al., (2021), which stated that the acceptor's age influences the choice of contraceptive injection. Researchers assume that this could be caused by several factors, such as the desire to use contraception at a younger age, preference for practical and effective contraceptive methods, or recommendations from health care providers. On the other hand, older age groups may have a tendency to choose different contraceptive methods, perhaps for health reasons or



personal preferences that change with age.

The research results show that the education of injectable contraceptive acceptors is mostly elementary to junior high school with 26 respondents (60.5%). According to research by Syukaisih, (2015), mothers with secondary education, with current technological developments, can easily access information from various media, so that they can increase their knowledge. Based on education level in choosing contraceptive injections, the majority of elementary and junior high school students tend to choose three-monthly contraceptive injections, amounting to 23 (53.5%) compared to 3 (7.0%) respondents who choose monthly contraceptive injections. Meanwhile, respondents with high school and tertiary education levels showed similarities in their choice of three-monthly injections or monthly injections. The results of the Chi-square test obtained a p-value of 0.021 which shows that there is a relationship between education and the choice of contraceptive injections. Respondents with a basic educational background may be less exposed to the variety of contraceptive options available and therefore tend to choose the three-monthly injection contraceptive because it may be considered the standard or best-known option. Respondents with a basic education may also be influenced by social and economic factors in contraceptive choices. For example, they may prioritize cost, availability, or practicality in selecting a contraceptive method, and the three-monthly injectable contraceptive may fit these preferences. This research is in line with that conducted by Magdalena et al., (2021), statistically significant was 0.021, indicating that there is a significant influence between the level of education on the choice of contraceptives. The higher a person's level of education, the better a person's knowledge about contraceptives and the more rational they are in using contraceptives. A person's high level of education will also support speeding up family planning information for couples of childbearing age.

A total of 27 respondents (62.8%) were known to be multiparous acceptors. According to research by Suherman et al., (2017), a woman's parity can influence whether a method is medically suitable and the number of living children a person has. Multiparas tend to suffer from placental obstruction due to abdominal tissue due to too many births, this will affect the weight of the fetus carried by a mother (Putri et al., 2013). More primiparous acceptors chose three-monthly contraceptive injections with a ratio of 23 respondents to 1 person who chose monthly injections. Meanwhile, for primiparas, the choices are not much different. Where 16



primiparas preferred three-monthly contraceptive injections, while 11 respondents chose monthly injections. Fisher's exact test shows a p-value of 0.017, which means that acceptor parity influences the choice of contraceptive injection. Multiparous women may be more likely to use injectable contraception than women who have never given birth or have only had one child. This can be due to various factors, such as a greater need for birth control after having several children, greater knowledge of contraceptive options after previous birth experiences, or recommendations from medical personnel based on the circumstances of previous pregnancies. Multiparas may have a greater need for pregnancy control after having several children. Injectable contraceptives can provide strong control over pregnancy, which can be a determining factor in contraceptive selection.

The research results showed that most of the injectable contraceptive acceptors had good knowledge, as many as 22 respondents (51.2%). Meanwhile, respondents with sufficient and poor knowledge were respectively nine and twelve acceptors. Acceptors who choose injectable contraceptives on average understand this type of contraception both in terms of benefits, advantages, disadvantages and how easy it is to use. In this case, it can be seen that the better the acceptor's level of knowledge, the better his understanding of injectable contraception (Hasnani, 2019). The majority of respondents who participated were well informed, they tended to choose three-monthly injection contraception, amounting to 20 respondents (46.5%) compared to two respondents who chose monthly injections. From the results of the Chi-square test, it was obtained that the p-value was 0.009, this shows that the respondent's knowledge was statistically significant in selecting injectable contraceptive acceptors.

The research results show that the attitudes of injectable contraceptive acceptors mostly have a positive attitude, as many as 30 respondents (69.8%). Attitude is a closed response to a particular stimulus or object that involves the relevant income and emotional factors (happy or unhappy, agreeing or disagreeing, good or bad, and so on). Attitudes are not entirely the main factor in forming behavior. Many factors influence attitudes including personal experience, culture, other people who are considered important, mass media, educational institutions or institutions and religious institutions as well as emotional factors within individuals (Notoatmodjo, 2017). Research by Septalia & Puspitasari, (2018), shows that studies of acceptor attitudes towards injectable contraception show variations in



individual views and experiences. However, most studies show that most acceptors have a positive view of injectable contraceptives because of their practicality, effectiveness and ease of use. whose research. The majority have a positive attitude and tend to choose three-monthly contraception, amounting to 25 respondents (58.1%), compared to 5 respondents (11.6%). The results of Fisher's exact test show that attitude has a significant effect on the choice of injectable contraception, with a p-value of 0.024. Respondents with positive attitudes towards injectable contraception may be more inclined to choose this method because acceptors accept and appreciate the effectiveness and benefits of its use. A positive attitude towards the method can influence their preferences. Positive attitudes towards injectable contraception may also be reflected in the social or cultural norms in the respondent's environment. If injectable contraception is considered a method that is accepted and perceived positively in society, respondents are more likely to choose it.

5. Conclusion

This research proves that the age, level of education, parity, level of knowledge and attitude of the acceptor significantly influence their choice of injectable contraception. Research limitations include the sample size not being representative considering the large population of injectable contraceptive acceptors. Besides that, collecting data at a certain place and time also shows minimal variation in data sources. However, the collection of respondents that the researchers used had gone through criteria that might increase the objectivity of the data. On the other hand, measurement variables such as knowledge and attitudes may be subjective and susceptible to bias, there is the possibility that there are other factors not considered in the research that can influence the relationship between the variables studied. This could be a development for future researchers so they can measure these aspects.

6. Conflict of interest

All authors declare no conflict of interest.

7. References

Affandi, B. (2013). Practical Guide to Contraceptive Services [in Indonesia]. Jakarta: PT. Bina Pustaka Sarwono Prawirohardjo.



- Asmariyah, A. (2021). Factors influencing the choice of the Depo Provera injectable contraceptive device among family planning acceptors in Bengkulu City [in Indonesia]. *Journal Of Midwifery*, 9(2), 24–29. <https://doi.org/10.37676/jm.v9i2.1828>
- Badan Kependudukan dan Keluarga Berencana Nasional - Badan Pusat Statistik - Kementerian Kesehatan – USAID. (2018). *Indonesian demographic and health survey* [in Indonesia]. Jakarta: Badan Kependudukan dan Keluarga Berencana Nasional, Badan Pusat Statistik, Kementerian Kesehatan, USAID. <https://archive.org/details/LaporanSDKI2017/page/n14/mode/1up>
- BPS-Statistics of Kalimantan Timur Province, (2022). *Kalimantan Timur Province in Figures 2022* [in Indonesia]. Samarinda: BPS-Statistics of Kalimantan Timur Province.
- Hartanto, H. (2017). *Various Contraceptive Methods* [in Indonesia]. Jakarta: EGC.
- Hasnani, F. H. (2019). Factors that influence acceptors in choosing injectable contraceptives [in Indonesia]. *Quality : Jurnal Kesehatan*, 13(1), 22–27. <https://doi.org/10.36082/qjk.v13i1.52>
- Henderson, C. J., & K. (2020). *Textbook of Midwifery Concepts 3rd edition* [in Indonesia]. EGC.
- Magdalena, M. T., Dheny, R., & Wulandari, R. (2021). Factors that influence family planning acceptors in choosing contraception at the Gondang Community Health Center, Sragen Regency [in Indonesia]. [http://eprints.ukh.ac.id/id/eprint/1735/1/ARTIKEL MEYKA THALITA.pdf](http://eprints.ukh.ac.id/id/eprint/1735/1/ARTIKEL_MEYKA_THALITA.pdf)
- Notoatmodjo, S. (2017). *Health promotion and behavioral science*. Jakarta: Rineka Cipta
- Ministry of Health Indonesia Republic (2023). Indonesia health profile 2022 [in Indonesia]. Jakarta: Ministry of Health Indonesia Republic. https://www.kemkes.go.id/app_asset/file_content_download/1702958336658115008345c5.53299420.pdf
- Putri, D., Nurullita, U., & Pujiati, N. (2013). Description of menstrual patterns of 1-month and 3-month injection contraceptive acceptors (Study at BPM T Tlogosari, Semarang City, 2012) [in Indonesia]. *Jurnal Kebidanan*, 2(1). doi:<https://doi.org/10.26714/jk.2.1.2013.%p>
- Saifuddin, A. B. (2016). *Midwifery science* [in Indonesia]. Edisi Keempat, Cetakan Kelima. PT Bina Pustaka.



- Sardevi & Sembiring, N. M. P. Br. (2023). Factors Associated with the Selection of Injectable Contraceptives for Women of Childbearing Age at the Independent Midwife Practice Efitia in 2022 [in Indonesia]. *Jurnal Sains Dan Kesehatan*, 6(2), 43–50. <https://doi.org/10.57214/jusika.v6i2.232>
- Septalia, R., & Puspitasari, N. (2017). Factors influencing the choice of contraceptive methods [in Indonesia]. *Journal of Biometrics and Population*, 5(2), 91–98. <https://doi.org/10.20473/jbk.v5i2.2016.91-98>
- Suherman, R. M., Widjajanegara, H., & Yuniarti, L. (2017). Relationship between Acceptor Characteristics and Choice of Contraceptive Method (Study in Argapura District, Majalengka Regency [in Indonesia]. *Bandung Meet Glob Med Heal*, 1(1), 99–105.
- Syukaisih. (2015). Factors related to the choice of contraception at the Rambah Samo Community Health Center, Rokan Hulu Regency [in Indonesia]. *Jurnal Kesehatan Komunitas (Journal of Community Health)*, 3(1), 34–40. <https://doi.org/10.25311/keskom.Vol3.Iss1.99>
- United Nations Department of Economic and Social Affairs, Population Division, (2022). World Family Planning 2022: Meeting the changing needs for family planning: Contraceptive use by age and method. UN DESA/POP/2022/TR/NO. 4 (https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2023/Feb/undes_a_pd_2022_world-family-planning.pdf).
- WHO. (2015). *Medical eligibility Criteria for Contraceptive Use Fifth Editions*. Geneva: WHO.