

# Differences in the characteristics of long-term contraceptive device acceptors compared to short-term ones

Diferencias en las características de los aceptores de dispositivos anticonceptivos a largo plazo en comparación con los aceptores a corto plazo

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## SUMMARY

**Introduction:** Long-term contraception is expected to reduce the Total Fertility Rate. However, currently, the use of short-term contraception is more dominant than the long-term (4:1). The study aims to identify differences in the characteristics of sexually active women of reproductive age using long-term versus short-term contraception.

**Methods:** This study used a descriptive-analytical cross-sectional with a non-random sampling quota using a questionnaire at Mulyorejo Health Center, Indonesia. The data used were primary data regarding age, work status, education level, income level, number of children, husband's support, and knowledge of acceptors or respondents using a research instrument in the form of a questionnaire.

**Results:** Among 130 respondents, 65 respondents were short-term users (50%) and 65 long-term users (50%). Intra-Uterine Device (IUD) is the most preferred long-term contraception because it is non-hormonal, while the injection is the most short-term contraception for practical reasons not to forget, most respondents were <35 years old, did not work, had children aged 2 years, and received support from their husbands in contraception. From the Chi-Square analysis, age ( $p=0.001$ ), education level ( $p=0.001$ ), and the number of children ( $p=0.012$ ) were the distinguishing factors for short-term and long-term contraception use.

**Conclusion:** There are differences in the characteristics of age, education level, and the number of children in sexually active women of reproductive age using long-term and short-term contraception.

**Keywords:** Contraception, characteristics of contraceptive acceptors.

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## RESUMEN

**Introducción:** *Se espera que la anticoncepción a largo plazo reduzca la tasa de fertilidad total. Sin embargo, actualmente, el uso de anticonceptivos a corto plazo es más dominante que el de largo plazo (4:1). El estudio tiene como objetivo identificar las diferencias en las características de las mujeres sexualmente activas en edad reproductiva que usan anticoncepción a largo plazo versus a corto plazo.*

**Métodos:** *Este estudio utilizó un corte transversal descriptivo-analítico con una cuota de muestreo no aleatorio utilizando un cuestionario en el Centro de Salud de Mulyorejo, Indonesia. Los datos utilizados fueron datos primarios sobre edad, situación laboral, nivel de educación, nivel de ingresos, número de hijos, apoyo del marido y conocimiento de los aceptantes o encuestados que utilizan un instrumento de investigación en forma de cuestionario.*

**Resultados:** *Entre 130 encuestados, 65 encuestados eran usuarios a corto plazo (50 %) y 65 usuarios a largo plazo (50 %). El dispositivo intrauterino (DIU) es el método anticonceptivo a largo plazo más preferido porque no es hormonal, mientras que la inyección es el método anticonceptivo a corto plazo por razones prácticas para no olvidar, la mayoría de las encuestadas tenían <35 años, no funcionó, tuvieron hijos de 2 años y recibieron apoyo de sus maridos en anticoncepción. Apartir del análisis de Chi-cuadrado, la edad ( $p= 0,001$ ), el nivel de educación ( $p= 0,001$ ) y el número de hijos ( $p= 0,012$ ) fueron los factores que distinguen el uso de anticonceptivos a corto y largo plazo.*

**Conclusión:** *Existen diferencias en las características de edad, nivel educativo y número de hijos en mujeres sexualmente activas en edad reproductiva que utilizan anticonceptivos a largo y corto plazo.*

**Palabras clave:** *Anticoncepción, características de los aceptadores de anticonceptivos.*

## INTRODUCTION

The problem of increasing Indonesia's population cannot be resolved. The Total Fertility Rate (TFR) of 2.6 from 2002 to 2012 has not decreased. In 2017 it was 2.4, while the 2020 Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN) target was 2.1 (1,2). The problem of the increased population cannot be resolved us caused by a high risk of maternal mortality, the risk of babies dying, and a high poverty rate, according to data from the Badan

Pusat Statistik (BPS) 2017, stating that in 2010 and 2012 there was an increase in cases of infants dying from 26 cases to 34 cases, and automatically, the risk of maternal death will also be high. Mother's death will not occur without a pregnancy (3).

Contraception is one way to reduce the risk of increasing the population. However, in Indonesia, the use of contraception among married women aged 15-49 years has continued to decrease from 2013 to 2017, starting from 61.98 to 58.70 (4). A significant increase in contraception use, an increase in age at first marriage, and several socio-economic and cultural factors affect decreasing fertility in Indonesia. In addition, residence (urban or rural), education, access to information, and visits by officers influence women in choosing the contraceptive device (2).

Contraception has two categories, that is long-term contraception to delay, pausing pregnancy, stopping fertility is used for an extended period of at least three years of use in one period of use and not long-term, or short-term contraception is a contraceptive used for a maximum of fewer than three years within one period of use or needing time to change contraceptions. Hence, it can be concluded that long-term contraception has long-term effectiveness so that it is affordable, does not have an effect on breast milk, does not change sexual function, and prevents the risk of maternal death during childbirth (5).

In Indonesia, according to the Indonesian Ministry of Health (2014), there are 8 500 247 couples of reproductive age using contraception. Contraception has several types, and the percentage of contraception use in 2014 was 658 632 Intra-Uterine Device (IUD), 128 795 Female Operation Methods, 21 374 Male Operation Methods, 517 638 condoms, 784 218 implants, 4 128 115 injections, and 2 261 birth control pills. It can be concluded that there are 1:4 users of long-term contraception compared to short-term (6).

There has not been any research on differences in the characteristics of users or contraceptive acceptors. This research needs to be conducted because of the lack of knowledge on the need for sexually active women of reproductive age in contraception choices so that some characteristics of contraception users can be used as a reference

for the government in providing counseling on contraception selection. The awareness of long-term contraception use in Indonesia is still minimal increase the use of the Long Term Contraception Method (MKJP) (6,7). One program of the BKKBN's efforts to reduce the maternal mortality rate is to increase the use of MKJP contraception. In Indonesia, there are types of contraception which hormonal and non-hormonal. Long-term contraception (non-hormonal) includes the implant, IUD, Female Operating Method (MOW), and Male Contraception Method (MOP) (8,9). Injection contraception (hormonal) is the most widely used short-term contraceptive method by married women aged 15-49 years old. Injection contraception remains as a contraceptive method with the highest interest due to its wide variations, high effectiveness, easy access, and invasive risk. It is available in 2 types marketed in Indonesia (2,10). This study aims to identify differences in the characteristics of sexually active women of reproductive age using long-term and short-term contraception.

## METHODS

This research is a descriptive-analytic cross-sectional study. This study was chosen because it used a periodic review to prove the differences between long-term and short-term family planning characteristics. This research was carried out from October to December 2019. The samples were women of reproductive age who were sexually active and used contraception

within the scope of the Mulyorejo Health Center or were currently at the Mulyorejo Health Center in Jl. Mulyorejo Utara No. 201 City of Surabaya, East Java, Indonesia at the time of research and were willing to be researched. Sampling was done using a non-random sampling quota.

Data collection was carried out using primary data regarding age, work status, education level, income level, number of children, husband's support, and the knowledge of acceptors or respondents using a research instrument in the form of a questionnaire with 65 long-term contraception respondents and 65 short-term contraception respondents. Descriptive and analytical data analysis was used. Descriptively, the data are presented through a frequency table in the form of absolute numbers and bivariate percentages through the Chi-Square test. This research had been registered in the ethics committee of the University of Muhammadiyah Surabaya, Indonesia, with the license number 0764.4/SER/11.3AU/A/2019.

## RESULTS

### Characteristics of respondents by types of contraception

Table 1 shows that short-term contraceptive acceptors are 65 respondents consisting of respondents who used injections and pills ( $p= 0.001$ ). While the acceptors of long-term contraception were 65 respondents consisting of respondents who used the IUD, MOW, and implant ( $p= 0.001$ ).

Table 1  
Characteristics of respondents by type of contraception

| Contraception | Type      | Frequency | Percentage | p       |
|---------------|-----------|-----------|------------|---------|
| Long-term     | IUD       | 37        | 56.9       | 0.000 * |
|               | MOW       | 12        | 18.5       |         |
|               | Implant   | 16        | 24.6       |         |
|               | Total     | 65        | 100.0      |         |
| Short-term    | Injection | 47        | 72.3       | 0.000 * |
|               | Pill      | 18        | 27.7       |         |
|               | Total     | 65        | 100.0      |         |

IUD = Intra-Uterine Device

MOW = Female Operating Method

LONG-TERM AND SHORT-TERM CONTRACEPTION

Based on Table 2, the characteristics of respondents that have a significant difference are age (p=0.001), working status (p=0.001), number of children (p = 0.023) and husband’s support (p=

0.001). Meanwhile, other characteristics such as level of education (p= 0.599) and income level (p= 0.161) had no significant differences.

Table 2  
The characteristics of 130 respondents

| Factor             | Category       | Frequency | %    | p       |
|--------------------|----------------|-----------|------|---------|
| Age                | ≤35            | 100       | 76.9 | 0.000 * |
|                    | > 35           | 30        | 23.1 |         |
| Working Status     | Work           | 44        | 33.8 | 0.000 * |
|                    | Does not work  | 86        | 66.2 |         |
| Level of education | Basic          | 62        | 47.7 | 0.599   |
|                    | Higher         | 68        | 52.3 |         |
| Income             | < Minimum wage | 73        | 56.2 | 0.161   |
|                    | ≥ Minimum wage | 57        | 43.8 |         |
| Number of children | ≤2             | 78        | 60.0 | 0.023 * |
|                    | > 2            | 52        | 40.0 |         |
| Husband’s Support  | Supported      | 127       | 97.7 | 0.000 * |
|                    | Not supported  | 3         | 2.3  |         |

Based on Table 3, there is a significant difference of 0.035 on long-term acceptors and a significant difference of 0.001 in short-term acceptors who are ≤ 35 years old and > 35 years old. There was a significant difference of 0.018 long-term acceptors and a significant difference of 0.004 short-term contraceptive acceptors who did not work. There was a significant difference

of 0.002 for long-term acceptors and 0.018 for short-term acceptors with basic education and higher education. At the income level, there was no significant difference of 0.172 for long-term acceptors, and there was no significant difference of 0.525 in the short term with income < minimum wage and ≥ minimum wage. In the number of children, there was no significant

Table 3  
Characteristics of Respondents of Long-Term and Short-Term Contraception

| Factor             | Category       | Long-term |      | P       | Short-term |      | p       |
|--------------------|----------------|-----------|------|---------|------------|------|---------|
|                    |                | frequency | %    |         | frequency  | %    |         |
| Age                | ≤35            | 41        | 63.1 | 0.035 * | 59         | 90.8 | 0.001 * |
|                    | > 35           | 24        | 36.9 |         | 6          | 9.2  |         |
| Working Status     | Work           | 23        | 35.4 | 0.018 * | 21         | 32.3 | 0.004 * |
|                    | Does not work  | 42        | 64.6 |         | 44         | 67.7 |         |
| Level of education | Basic          | 20        | 30.8 | 0.002 * | 42         | 64.6 | 0.018 * |
|                    | Higher         | 45        | 69.2 |         | 23         | 35.4 |         |
| Income             | < Minimum wage | 38        | 58.5 | 0.172   | 35         | 53.8 | 0.525   |
|                    | ≥ Minimum wage | 27        | 41.5 |         | 30         | 46.2 |         |
| Number of children | ≤2             | 32        | 49.2 | 0.901   | 46         | 70.8 | 0.001 * |
|                    | > 2            | 33        | 50.8 |         | 19         | 29.2 |         |
| Husband's Support  | Supported      | 64        | 98.5 | 0.000 * | 63         | 96.9 | 0.000 * |
|                    | Not supported  | 1         | 1.5  |         | 2          | 3.1  |         |

difference of 0.901 in long-term acceptors, and there was a significant difference of 0.001 in the short-term acceptors having children  $\leq 2$  with  $> 2$ . In the husband's support, there was a significant difference of 0.001 for long-term acceptors and a significant difference of 0.000 for short-term acceptors supported by their husbands and those without their husbands' support.

Based on Table 4, the respondents aged  $> 35$  years tend to use long-term contraception 5.75 times higher than respondents aged  $\leq 35$  years ( $p = 0.001$ ). It indicates that age can affect the choice of contraception. There was no difference in 0.711 characteristics of long-term and short-term contraceptive acceptors based on work status, showing that work status does not affect the choice of contraception. Respondents with

basic education to use long-term contraception were 4.11 times higher than respondents with higher education ( $p = 0.001$ ), indicating that the level of education affects the choice of contraception. There was no difference in 0.596 characteristics of long-term and short-term contraceptive acceptors based on family income. Hence, family income does not affect the choice of contraception. Respondents with children  $> 2$  tended to use long-term contraception 2.49 times higher than respondents with children  $\leq 2$  ( $p = 0.012$ ) so that the number of children affects the choice of contraception. There was no difference in 0.559 characteristics which shows relatively homogeneous characteristics of long-term and short-term contraceptive acceptors based on the husband's support.

Table 4

Differences characteristics of long-term and short-term contraceptive acceptors

| Factor             | Category            | Long-term |      | Short-term |      | p       | OR    |
|--------------------|---------------------|-----------|------|------------|------|---------|-------|
|                    |                     | frequency | %    | frequency  | %    |         |       |
| Age                | $\leq 35$           | 41        | 63.1 | 59         | 90.8 | 0.000 * | 5.75  |
|                    | $> 35$              | 24        | 36.9 | 6          | 9.2  |         |       |
| Working Status     | Work                | 23        | 35.4 | 21         | 32.3 | 0.711   | 1.147 |
|                    | Does not work       | 42        | 64.6 | 44         | 67.7 |         |       |
| Level of education | Basic               | 20        | 30.8 | 42         | 64.6 | 0.000 * | 4.11  |
|                    | Higher              | 45        | 69.2 | 23         | 35.4 |         |       |
| Income             | $<$ Minimum wage    | 38        | 58.5 | 35         | 53.8 | 0.596   | 1.26  |
|                    | $\geq$ Minimum wage | 27        | 41.5 | 30         | 46.2 |         |       |
| Number of children | $\leq 2$            | 32        | 49.2 | 46         | 70.8 | 0.012 * | 2.49  |
|                    | $> 2$               | 33        | 50.8 | 19         | 29.2 |         |       |
| Husband's Support  | Supported           | 64        | 98.5 | 63         | 96.9 | 0.559   | 2.032 |
|                    | Not supported       | 1         | 1.5  | 2          | 3.1  |         |       |

OR = Odds Ratio

**DISCUSSION**

Several characteristics of the respondents have significant differences in the use of long-term and short-term contraception, including age, level of education, and the number of children. These factors affect the choice of contraception in sexually active women of reproductive age. At the age of  $\leq 35$  years old they use short-term contraception because they want to space out pregnancies and still want to increase the number of children, while those who aged  $> 35$  years prefer to use long-term contraception because they want to stop increasing the number of children; it practically can be used for at least three years. There were significant differences between long-term and short-term contraceptive acceptors based on age, indicating that age affects the choice of contraception. The research reinforces that the majority of women over 30 years of age use long-term contraception so that age affects the choice of contraception (11).

The majority of short-term contraceptive acceptors were basic school education, while most long-term contraceptive acceptors had high school education. There are significant differences between long-term and short-term contraceptive acceptors based on education so that education affects the choice of contraceptive type. In line with research, there is a significant relationship between the decision to choose contraception to the level of education. The higher the level of education, the more rational it is to choose contraception (11). The level of education affects the choice of contraception because someone who has higher education, in general, will have a broader view and more easily accept innovative ideas and things (12). Thus, the level of education can be used as a factor in choosing contraception.

Respondents dominated long-term contraceptive acceptors with children  $> 2$ , while short-term contraceptive acceptors were dominated by respondents who had children  $< 2$ . There were significant differences between long-term and short-term contraceptive acceptors based on the number of children. It is in line with research which states that there is a significant relationship with the number of children or parity of contraceptive acceptors in determining

decisions; acceptors with parity of more than 2 children are ten times more likely to choose long-term contraception than parity with less than two children (13). In contrast, another study states that there is no relationship between the number of children and the use of contraception (14).

Short-term contraceptive acceptors were dominated by women who did not work. There was homogeneity of long-term and short-term contraceptive acceptors based on work status so that work status does not affect the choice of contraception type. It is in line with the research which states that work status has no relationship with the choice of contraception because contraceptive acceptors will not interfere with work activities even when using contraception (15). In contrast which states that working women prefer long-term contraception because they are practical, safe, and have long-term effects (12).

Both long-term and short-term contraceptive acceptors had family income  $<$  minimum wage. There was no significant difference between long-term and short-term contraceptive acceptors based on income. It is reinforced by a study stating that income does not affect someone using the contraceptive method (16). Meanwhile, high family income has a 4.8 times chance of using long-term contraception compared to low family income (17).

Both long-term and short-term contraceptive acceptors received support from their husbands. There was no significant difference between long-term and short-term contraceptive acceptors based on the husband's support. In line with research which states that partner support has a relationship with the choice of contraception (8).

**CONCLUSION**

Factors that influence the choice of long-term or short-term contraception are age, education level, number of children. Factors that do not affect the choice of long-term or short-term contraception are factors of work status, income, and husband's support. The result of the study explained that there were differences in the characteristics of age, education level, and the number of children in sexually active women of reproductive age using long-term and short-term contraceptive.

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### Conflicts of Interest

There is no conflict of interest in the research.

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