



## **Factors predicting of the Implant Contraceptive Used as Family Planning Method among Mothers in Wae Mbeleng Public Health Center, Ruteng Sub District**

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**Abstract.** Population explosive growth has still become an unfinished Issue in this age. The vast growth of the population is because of the high level of population growth rate. Indonesia is one of the developing nations with a large population and high population growth rate. This study aims to identify factors related to the use of implants as a contraceptive family planning method. This study was using an analytic cross-sectional design on 392 women of reproductive age. The variable analyzed in this study support was collected using a structured questionnaire. Variables with significant statistic correlation on implant use were age ( $p=0.005$ ), education (0.000), knowledge (0.000), culture (0.016), information obtain from health professionals ( $p= 0.000$ ), and spouse's support ( $p=0.000$ ). The most impactful variable on implant contraceptive method was the information obtain from health workers.

**Keyword:** reproductive, age, women, implant



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## **INTRODUCTION**

Achieve optimum maternal health is one of the main objectives of Sustainable Development Goals (SDGs). This is also in line with the government development pathway 2015-2019, to achieve development priority agenda (Nawacita), specifically on fifth priority "to increase the quality of life of Indonesian" through "population development and family planning"(1)

Population explosive growth has still become an unfinished Issue in this age. The vast expansion of population is because of the high level of population growth rate. Indonesia

is one of the developing nations with a large population and high population growth rate. According to the 2016 World Population Data Sheet, Indonesia is in the fourth position of population density estimation, reaching 259 million people, followed by a high population growth rate. Until 2016, Indonesia's population growth rate is 1.49%, equivalent to four million people per year (2)

The relatively high population growth rate caused by the Total Fertility Rate (TFR) remains unchanged or stagnant in the last decade. Based on Indonesia's Demographic and Health Survey (Survei Demografi dan Kesehatan Indonesia/SDKI) on 2007 and 2012 showed that the total fertility rate still on the level of 2.6% due to the low contraceptive prevalence rate about 57% dominated with the use of short term contraceptive, high unmet need rate about 8.5, contraceptive use drop out rate by method pill 41%, condom 31%, and injection 25% compare to long term methods such as IUD 6% and implant 8%. Age-Specific Fertility Rate (ASFR 15-19) is at the high rate by 48 birth per 1000 women.

The coverage of new contraceptive use and active contraceptive use showed a similar pattern on the contraceptive method choice. The majority of new and dynamic contraceptive users chose the non-long term contraceptive method by 79.48% and the long term contraceptive method by 20.51%. While amongst the active contraceptive user, the non-long term contraceptive method is as much as 74% and the long term contraceptive method is as much as 25.99%. The percentage of the active contraceptive user on reproductive-age couples in Indonesia by 2016 is 74.8%. The province with the highest rate in Northern Maluku was 87.03, and the lowest was 63.24. From the entire reproductive age couple targeted by the family planning program, almost half decide not to utilize the program for various reasons, such as postponing the pregnancy or not planning to have kids anymore. This group of reproductive age couple known as unmet need(3)

Regency/City Health Profile Report in NTT in 2016 showed that the coverage of active contraceptive use based on the method is 70.3 %. In 2015, the coverage of active contraceptive use was 67.9 %. In 2014 the coverage of active contraceptive use was 73.1 %. In 2013, the coverage of active contraceptive use was 60.1%. It showed that between 2013 – 2016 the coverage of active contraceptive use is increasing year by year. Compared to the 70% target coverage, it achieves the said target by choosing contraceptive methods, including injection by 45.7%, pills by 12.7%, implant 16.2 %, and IUD 7.9%. In Manggarai Regency, the number of implant contraceptive user is relatively low, as much as 3.237 users (10.1%), and the majority of user choose injection contraceptive method as much as 12.120 (37.7%) (4)

The highest prevalence of active contraceptive users is Lelak subdistrict, as much as 75.66%, while the lowest is West Satarmese subdistrict, as much as 50.36%. In Ruteng itself, the prevalence of active contraceptive users is 61.70%. From 3.758 active contraceptive user, the majority of acceptor using non-long term contraceptive method is 18.22%, and acceptor using long term contraceptive method is 81.77 % with the used implant is 26.54%, while the percentage of unmet need is 17.99% (5)

Based on the initial data collection conducted in Wae Mbeleng public health center, Ruteng sub-district, Manggarai regency obtained that the highest contraceptive use method is IUD as much as 1187 users (64%). The hormonal injection method acceptor is as much as 379 user (20.3%), hormonal pill method acceptor is 175 user (9.4%), tubectomy method is 116 user (6.2%), while implant method acceptor is only 3 (0.16%) and vasectomy and condom acceptor is 0%.

Several possible factors influence the use of implant as the contraceptive method is including spouse's or husband's support on deciding the contraceptive method is the expression of care and responsibility of the male counterparts; knowledge is the other significant dominant factor in determining contraceptive method. The other factors related to the use of an implant are age, education, parity, culture, and health education.

## OBJECTIVE

This study is aimed to analyze the factors predicting the use of implant as the contraceptive family planning method in Wae Mbeleng public health center, Ruteng subdistrict, Manggarai Regency.

## METHOD

This study was an analytic observational study with a cross-sectional time approach. This study's population was all the reproductive age women in Wae Mbeleng public health center, Ruteng subdistrict, Manggarai Regency as much as 1860 women. The sampling technique used probability sample by Multistage Random Sampling define as the sampling conducted based on regional level gradually with the total sample is 329 respondents.

Data analysis used univariate analysis, bivariate analysis using Simple Logistic Regression Test, and multivariate analysis using Multinomial Logistic Regression.

## RESULTS

### 1. Respondents Characteristic Frequency Distribution

**Table 1. Respondents Characteristic Frequency Distribution**

| Age (Year)          | Frequency | %   |
|---------------------|-----------|-----|
| 20-35               | 46        | 14  |
| <20 or >35          | 283       | 86  |
| Total               | 329       | 100 |
| Education           | Frequency | %   |
| Low (<High school ) | 238       | 72  |
| High (≥High school) | 91        | 28  |
| Total               | 329       | 100 |
| Parity              | Frequency | %   |
| <2                  | 152       | 46  |
| ≥2                  | 177       | 54  |
| Total               | 329       | 100 |
| Occupation          | Frequency | %   |
| None                | 186       | 57  |
| Employed            | 143       | 43  |
| Total               | 329       | 100 |

Based on the above table, respondents' age in this study ranges from 20-35 years old (age of controlling pregnancy) and <20 years old or >35 years old (age of postponing pregnancy). The number of respondents aged 20-35 years old is as much as 14 % or 46. Respondents aged <20 years old or >35 years old is 283 women or 86%. This could be concluded that almost all the respondents are at the age of controlling pregnancy.

The prevalence of respondents with high school degrees or less is 72% or 238 women, while the respondents with higher education degrees than high school are 28% or 91 women. This showed that the majority of respondents has elementary, junior, and high school degree.

On parity characteristic, there are 152 respondents or 46 % of women experiencing labor less than twice. The respondents with labor experience more than twice are as much as 177 women or 54 %. This showed that most respondents have more than twice labor experience. In this study, there are 186 women, or 57 %, who are not working. Respondents with the occupation are as much as 143 women or 43%. Thus, the majority of women in this study do not have employment.

## 2. Logistic regression test analysis of factors predicting the use of implant

**Table 2.** The Result of Logistic Regression Test Analysis of Factors Influencing the Use of Implant

| Age<br>(year                          | The use of implant |      |     |     |       |      | P-<br>value | OR     | 95% C.I.for<br>EXP(B) |        |
|---------------------------------------|--------------------|------|-----|-----|-------|------|-------------|--------|-----------------------|--------|
|                                       | Not use            |      | Use |     | Total |      |             |        | Lower                 | upper  |
|                                       | n                  | %    | n   | %   | N     | %    |             |        |                       |        |
| 20-35                                 | 45                 | 13.7 | 1   | 0.3 | 46    | 14   | 0.000       | 0.314  | 0.166                 | 0.593  |
| <20 or<br>>35                         | 281                | 85.4 | 2   | 0.6 | 283   | 86   |             |        |                       |        |
| Total                                 | 326                | 99.1 | 3   | 0.9 | 329   | 100  |             |        |                       |        |
| Education                             |                    |      |     |     |       |      |             |        |                       |        |
| Low (<High<br>School )                | 235                | 71.4 | 3   | 0.9 | 238   | 72.3 | 0.955       | 1.015  | 0.602                 | 1.713  |
| High(≥High<br>School)                 | 91                 | 27.7 | 0   | 0   | 91    | 27.7 |             |        |                       |        |
| Total                                 | 326                | 99.1 | 3   | 0.9 | 329   | 100  |             |        |                       |        |
| Occupation                            |                    |      |     |     |       |      |             |        |                       |        |
| None                                  | 185                | 56.2 | 1   | 0   | 186   | 56.5 | 0.038       | 1.646  | 1.028                 | 2.636  |
| Employed                              | 141                | 42.9 | 2   | 1   | 143   | 43.5 |             |        |                       |        |
| Total                                 | 326                | 99.1 | 3   | 1   | 329   | 100  |             |        |                       |        |
| Parity                                |                    |      |     |     |       |      |             |        |                       |        |
| ≤2                                    | 217                | 66   | 1   | 0   | 218   | 66.3 | 0.053       | 1.601  | 0.994                 | 1.579  |
| >2                                    | 109                | 33.1 | 2   | 1   | 111   | 33.7 |             |        |                       |        |
| Total                                 | 326                | 99.1 | 3   | 1   | 329   | 100  |             |        |                       |        |
| Knowledge                             |                    |      |     |     |       |      |             |        |                       |        |
| Less (≤50%)                           | 217                | 66   | 1   | 0.3 | 218   | 66.3 | 0.000       | 49.058 | 4.551                 | 98.031 |
| Good (>50%)                           | 109                | 33.1 | 2   | 0.6 | 111   | 33.7 |             |        |                       |        |
| Total                                 | 326                | 99.1 | 3   | 0.9 | 329   | 100  |             |        |                       |        |
| Culture                               |                    |      |     |     |       |      |             |        |                       |        |
| Not<br>Supportive                     | 144                | 43.8 | 1   | 0   | 145   | 44.1 | 0.016       | 1.561  | 0.350                 | 0.900  |
| Supportive                            | 182                | 55.3 | 2   | 0.6 | 184   | 55.9 |             |        |                       |        |
| Total                                 | 326                | 99.1 | 3   | 1   | 329   | 100  |             |        |                       |        |
| Information<br>from health<br>workers |                    |      |     |     |       |      |             |        |                       |        |
| Not obtain                            | 85                 | 25.8 | 1   | 0.3 | 86    | 26.1 | 0.000       | 1.125  | 0.072                 | 0.216  |
| Obtain                                | 241                | 73.3 | 2   | 0.6 | 243   | 73.9 |             |        |                       |        |
| Total                                 | 326                | 99.1 | 3   | 0.9 | 329   | 100  |             |        |                       |        |

The influence of age characteristic toward using an implant is 46 respondents (14%) on the age of 20 to 35. 45 (14.75%) of them are not using an implant and 1 (0.3%) who use an implant, while for respondents on <20->35 years old category, there are 281 (85.4%) who do not use the implant and 2 (0.6%) who use implant. The statistic analysis showed p-value <0.05 is 0.000, meaning age significantly influences the use of implant contraceptive method while OR is as much as 0.314. It was indicated that the respondents aged 20-35 years old tend to use the implant as a contraceptive method 0.314 times than respondents aged <20 or >35 years old.

The respondents with low education level (<High School) who are not using implant contraceptive method is 235 women (71.4 %). Respondents who use implant is 3 (0.9%), from respondents with higher education level ( $\geq$ High School), 91 women (27.7%) is not using an implant, and 0 % is using an implant. It is statistically tested that education level has no relation with the implant showed by p-value > 0.05 by 0.955.

Respondents who do not use implant contraceptive method is as much as 185 (56.2%) and who use implant contraceptive method is 1 (0.3%), from the employed respondents, there are 141 (27.7%) women who do not use implant and 2(1%) use implant as a contraceptive method. Statistically, the p-value <0.05 is 0.038, meaning that employment status influenced implants' use as a contraceptive method. While the OR value is 0.038, meaning that the employed respondents have a 0.038 higher chance to use the implant as a contraceptive method than non-employed respondents.

Of the respondents with  $\leq$ two childbearing experiences, 150 (45.6%) do not use implant and 2 (0.6%) who use implants. Amongst the respondents with >2 childbearing experience, there are 176 (53.5%) who do not use implant and 1 (0.3%) who use implant. It is statistically tested that parity does not influence the use of an implant, shown by the p-value  $p>0.5$  by 0.053.

The respondents with less knowledge ( $\leq 50\%$ ), the respondents who did not use implant are as much as 217 (66.0%). The respondents who used implant is as much as 1 (0.3%). From the respondents with good knowledge ( $>50\%$ ), the respondents who did not use implant is 109 women (33.1%), and who used implant is 2 (0.6%). It was statistically tested that knowledge influence implant showed by p-value <0.05 is p 0.000, while OR is 49.058, meaning that the respondents with good knowledge have 49.058 chances higher to use the implant contraceptive method than the respondents with less knowledge.

Respondents with an unsupportive culture that did not use implant are 144(43.8%) and used implant is as much as 1 (0.3%). Respondents with a supportive culture that did not use implant are 185 (55.3%) and used implant is as much as 2 (0.6%). It was statistically tested that culture influence implant showed by p-value <0.05 is p 0.016, while OR is 1.561 meaning that the respondents with supportive culture have 1.561 chances higher to use the implant as a contraceptive method than the respondents with unsupportive culture.

Respondents who did not obtain the information from health workers there are 85 respondents (25.8%) who did not use implant and 1 respondent (0.3%) who used an implant. Amongst respondents who obtained the information from a health worker, 241 respondents (73.3%) did not use the implant, and 2 respondents (0.6%) used the implant. It was statistically tested that information obtain from health workers influence the use of implant showed by p-value <0.05 is p 0.000, while OR is 1.125. It was indicated that the respondents who obtain information from health workers have 1.125 times more chances to use the implant as a contraceptive method than the respondents who did not obtain information from health workers.

There are 131 (41.6%) respondents with unsupportive husbands who did not use implant and 1 (0.3%) who use implant. Amongst respondents with a supportive husband, 189

respondents (57.4%) did not use the implant, and two respondents (0.6%) use implants. It was statistically tested that husband's support influence the use of implant showed by p-value  $<0.05$  is  $p = 0.000$ , while OR is 1.287, meaning that the respondents with supportive husbands have 1.287 times more chances to use the implant as a contraceptive method than the respondents with non-supporting husband.

3. The Result of Multinomial Logistic Regression Test Analysis of Factors Predicting the Use of Implant as Family Planning Contraceptive Method

a. Bivariate Selection

Table 3. the result of independent bivariate selection using simple logistic regression

| No. | Variable                      | P-value | Information |
|-----|-------------------------------|---------|-------------|
| 1   | Age                           | 0.000   | Eligible    |
| 2   | Education                     | 0.955   | Uneligible  |
| 3   | Parity                        | 0.052   | Eligible    |
| 4   | Occupation                    | 0.037   | Eligible    |
| 5   | Knowledge                     | 0.000   | Eligible    |
| 6   | Information of health workers | 0.000   | Eligible    |
| 7   | Culture                       | 0.016   | Eligible    |
| 8   | Husband's support             | 0.000   | Eligible    |

Based on the table above, it is identified that women's age, parity, occupation, knowledge, culture, information from a health worker, and husband's support have p-value  $<0.25$ , meaning that these variables are continued to be analyzed using multivariate analysis. While education variable with p value  $>0.25$ . The education variable is ineligible to be analyzed using multivariate test analysis, but it is included in the modeling because education is one of the significant factors.

b. Initial Modelling of Multinomial Logistic Regression Analysis of Factors Predicting the Use of Implant as Contraceptive Family Planning Method

Table 4. Initial Modelling of Multinomial Logistic Regression Analysis of Factors Predicting the Use of Implant as Contraceptive Family Planning Method

| Independent Variables |                               | B      | Sig. (p) | Exp(B) (OR) | C.I. 95% |         |
|-----------------------|-------------------------------|--------|----------|-------------|----------|---------|
|                       |                               |        |          |             | Lower    | Upper   |
| Step 1 <sup>a</sup>   | AGE                           | -1.766 | 0.005    | 0.171       | 0.05     | 0.58    |
|                       | EDUCATION                     | 2.036  | 0.000    | 7.659       | 2.494    | 23.524  |
|                       | PARITY                        | -0.496 | 0.307    | 0.609       | 0.235    | 1.577   |
|                       | OCCUPATION                    | 0.422  | 0.414    | 1.524       | 0.555    | 4.19    |
|                       | KNOWLEDGE                     | -5.471 | 0.000    | 0.004       | 0.001    | 0.017   |
|                       | INFORMATION OF HEALTH WORKERS | 4.283  | 0.000    | 72.476      | 18.16    | 289.246 |
|                       |                               |        |          |             |          |         |

|                      |        |       |        |       |        |
|----------------------|--------|-------|--------|-------|--------|
| CULTURE              | 0.096  | 0.844 | 1.101  | 0.421 | 2.879  |
| HUSBAND'S<br>SUPPORT | 2.532  | 0.000 | 12.573 | 4.052 | 39.018 |
| Constant             | -1.068 | 0.173 | 0.344  |       |        |

The variables with P-value > 0.05 were parity, occupation, and culture. The next phase is to exempt out variables with a p-value > 0.05. Variables are gradually exempted from modeling based on the higher variable probability value. After exclusion, a logistic regression test is conducted again until there is no variable with a probability value (*p-value*) > 0.05.

- c. The Final Modelling of Multinomial Logistic Regression Test Analysis of Factors Predicting the Use of Implant as Contraceptive Family Planning Method

Table 5. The Final Modelling of Multinomial Logistic Regression Test Analysis of Factors Predicting the Use of Implant as Contraceptive Family Planning Method

| Independent Variables  |                                                    | B      | Sig.<br>(p) | Exp(B)<br>(OR) | C.I. 95% |        |
|------------------------|----------------------------------------------------|--------|-------------|----------------|----------|--------|
|                        |                                                    |        |             |                | Upper    | Lower  |
| Step<br>4 <sup>a</sup> | AGE                                                | -1.749 | 0.005       | 0.174          | 0.051    | 0.59   |
|                        | EDUCATION                                          | 2.107  | 0.000       | 8.226          | 2.73     | 2.,781 |
|                        | KNOWLEDGE<br>INFORMATION<br>FROM HEALTH<br>WORKERS | -5.525 | 0.000       | 0.004          | 0.001    | 0.016  |
|                        | HUSBAND'S<br>SUPPORT                               | 4.256  | 0.000       | 70.504         | 18.422   | 269.83 |
|                        |                                                    | 2.553  | 0.000       | 12851          | 4.25     | 38.862 |
|                        | Constant                                           | -1.047 | 0.097       | 0.351          |          |        |

Based on table 5, it is concluded that the most influential variable on the use of implant as family planning contraceptive method is information from health workers with sig. value= 0.000 and OR value 70.504 (95% CI 18.422-269.83). The next most influential variable is the husband's support with sig. value= 0.000 and OR value 12.851 (95% CI=4.25-38.862), the next variable is education with sig. value=0.000 and OR value 8.266 (95% CI=2.73-24.781), the next variable is age with sig. value=0.005 and OR value 0.174 (95% CI=0.051-0.59) and the last variable is knowledge with sig. value =0.000 and OR value 0.004 (95% CI=0.001-0.016).

## DISCUSSION

### 1. Age

Reproductive age is an active period used for fulfilling a sexual need. Thus it is crucial to choose the effective method to control, postpone, and space pregnancy (6). Reproductive age between 20 to 35 years old was adult age that matures for fertilization. While the age under 20 is too young to be pregnant, contraception is needed to postpone the pregnancy.

Most of the reproductive period is actively used on sexual needs, so women have an extended period of effective control and spacing the pregnancy. The study of a

young mother in the U.S. stated that to space the pregnancy requires the long term contraceptive method because younger age have more extended reproductive period. A previous study showed that women under 21 tend to have experienced unwanted pregnancy and abortus twice higher (7).

This study showed that most respondents are in the age of 20 or over 35 years old. The statistic test result showed p-value  $<0.05$  is 0.000, meaning that age significantly affects the implant as a contraceptive method with OR value of 1.314. It was indicated that respondents age 20-35 years old have 1.314 times chance to use the implant as a contraceptive method than respondents aged under 20 or over 30 years old. The use of an implant is more frequent in women age 20-35 years old. It is identified that age 20-35 is a reproductive period and mature age perfect for fertilization.

This study result is in line with the previous study based on the chi-square test. There is a significant correlation between age and the use of implant contraceptive method proved by p-value 0.025 (8). The other previous study also yielding the same result which based on the statistical test, there is a significant relationship between age and the use of implant shown by p-value 0.002 and OR 2.29(9)

The researcher assumed that an implant's use is more prevalent in women aged 20-35. The age of 20-35 is a reproductive and mature age for pregnancy. In this period of age, the contraceptive is used to control and space the pregnancy. The effective time range of implant is about 3 to 5 years, suitable for the ideal range between pregnancies.

## **2. Education**

The role of education is to influence women's perception of choosing the appropriate contraceptive method. This tendency relates to the education level is significant toward the level of understanding and knowledge. A study in Cambodia underlined the significant relationship between education and the choice of modern contraceptive methods (10).

Education is an effort to provide knowledge to increase positive behavior change. The education level impacts a couple's desire to decide the number of children (11). The Public's education level is the main foundation for understanding family planning issues, and contraception is the key to a successful family planning program.

This study result showed that most respondents have lower education ( $<$ High school), affecting less knowledge and understanding of implant as a contraceptive method. Statistically, education does not significantly influence implants' use, with a p-value  $> 0.05$  is 0.955.

This is contradictive with the pre-existing theory that education level influencing understanding and knowledge. The previous study showed that education level is significantly correlated to modern contraceptive use (12). The higher education level possess more impact than the lower education level because a mother with higher education level tend to have more experience in using contraception (13)

The different result obtains that mother's education level and the use of modern contraception is significantly related. Mothers with high education level tend to choose the contemporary contraceptive method with higher effectiveness(14). The different results obtained from this study in Puskesmas Wae Mbeleng public health center that the lower someone's education, the easier it is to choose a contraceptive method. It is concluded that people with lower education levels prone to be easy to influenced by others.

The researcher suggested that implants' use on reproductive age is more frequent on women with lower education. This Issue is correlated. Education is an essential aspect of the development and advancement of human resources of a nation. People with high education level prone to have more critical and selective principles making them more ideal and thoughtful to act. Meanwhile, people with low education levels would easily be convinced to serve. Their lack of knowledge makes them more open to the newly introduced matter.

### **3. Occupation**

The classification of a mother's employment status is working outside the home mother and non-working mother. The physical activities performed by the working mother are assumed as a burden and influencing a mother whether to use contraception or not.

The study result showed that most of the respondents are not working, affecting contraception choice because working mothers tend to control fertility, making them prefer the more effective and long-term method, statistically, with a p-value  $p < 0.05$  on  $p = 0.038$ . It was indicated that respondents' occupation influenced the use of implant contraceptive method with OR value of 1.646, meaning that the employed respondents have a 1.646 higher chance of using the implant as a contraceptive method than non-employed respondents.

This result is in line with a study in Ethiopia stated that working women possess three times chance to use implant than non-working women (OR: 3.24, 95% CI: 1.37-7.67). This showed that better economic status has a higher chance of deciding and obtaining information on implant contraceptive methods.

The study result also in line with a study by Marlina (2016) that state the significant relationship between occupation and the use of implant contraceptive method proved by p-value  $< 0.05$  on 0.012 and OR = 1.98, meaning that the working acceptor has 1.9 times chances to use implant than the non-working acceptor (15).

The researcher suggests that the job type determine individual lifestyle and habit. Occupation has a vital role and relates to mindset and decision taken to sustain the career. The assumption of implant contraception is unsafe to heavy workers create the unpopular use of an implant.

### **4. Parity**

Parity is defined as the number of times of live birth by a woman; and the main factors of implementing a family planning program. Children are the hope and aspiration of marriage. Thus the decision on the number of kids is a choice affected by the parents' value of longing and desire(16)

This study result showed that the majority of the respondents have more than two childbirth. Still, respondents choose to use contraception because respondents no longer agree that more kids bring more fortune. The repeated experience of mothers' childbirth affects the decision on a more effective and long-term contraceptive method. Statistically, parity does not correlate with the use of implant shown by p-value  $> 0.5$  on 0.053.

The study conducted in Newland and the study result of Aleymahu that women with  $> 2$  children have three times chance to choose the permanent contraceptive method than women with  $< 2$  children shown by OR value of 2.7 and CI 1.4-5.1(17).

This study suggests that the number of live children affecting parents' reproductive age to choose the contraceptive method. On parents with less alive children, there is a tendency to use a less effective contraceptive method. In

comparison, the parent with more alive children tends to use a more effective contraceptive method.

## 5. Culture

*Budaya* (English: culture) is derived from the Sansekerta language *buddhayah*, the plural form of *buddhi* (sense) defined as things related to humans' sense and reasoning. *Kebudayaan* is defined as things related to human's senses. While culture is a compound development of culture defined as the resource of sense, it could be divide into the help of sense, including creativity, intention, and feeling. That culture is the outcome of creativity, intention, and feeling. Civilization contains the extensive definition of understanding, the complex sentiment of a nation including knowledge, beliefs, art, morals, law, tradition, and other characteristics obtain from the society (18).

Culture mentioned in this study is defined as the community's custom and practice that supports the decision-making of contraceptive methods such as social and religious activities. Therefore, the community is aware of the importance of participating in family planning programs that are not due to the external force but from the awareness and beliefs.

Culture is a complex of knowledge, belief, art, morals, law, tradition, capability, and habitually obtained by humans as a society member. Culture consists of anything learned from the normative behavioral pattern, including thinking, feeling, and acting (19).

This study result showed that most of the respondent's cultures support the use of implant contraceptive methods. Statistically, culture influences implant shown p value<0.05 on 0.016 with OR value 1.561. It was indicated that the respondents with supportive culture have 1.561 chances higher to use the implant as a contraceptive method than the respondents with unsupportive culture.

One respondent with supportive culture but not use implant is due to several factors such as the lack of knowledge on the implant contraceptive method, type, working mechanism, the health provider, who's in charge of insertion, the appropriate time to insert, time to remove, the weakness or advantages. With sufficient knowledge of the implant contraceptive method, it is expected that more people prefer the implant contraceptive method. Adequate knowledge is a foundation for deciding the contraceptive method to be used.

Based on the respondents' interview, another factor contributing to respondents not use implants even within a supportive environment. Due to the respondent's fear of the insertion process, fear of blood spot after insertion, afraid of implant slipped out while doing activities, fearful of more prolonged menstrual bleeding.

Based on the respondents' reason for the implant used, the implant is culturally acceptable, meaning there is full support from the related parties and no restriction on implant use. The majority of respondents have a good perception of the role of a public figure, cadre, and health workers to increase implant use.

The different results obtained from the study in Ethiopia that religious factors and cultural values have no significant relationship to implants' use as contraceptive methods (17). A similar study in Turkey found a different result that religion and culture influence the respondents on deciding the contraceptive method to use because religion and culture prohibit the specific contraceptive method(20)

The environment has a significant role in determining individual behavior. A study in Cimahi found that cultural factors possess the most dominant influence on using a contraceptive method with OR value of 29.93 and p value= 0.005(21). A

similar study in Tanzania found a significant relationship between religion and contraception use with OR 2.802 and p value<0.05 (22)

The researcher assumed that the socio-cultural aspect is a condition created to manage social life in every area. The effort to modify human behavior is more comfortable and effective if the value and cultural aspect is involved. Most of the Catholic beliefs did not advocate their devotees to use modern contraception. Managing birth space and preventing pregnancy using specific tools or methods is considered opposing God's will. But from the respondent's answer, it is concluded that the pre-existed culture does not influence the decision of using an implant.

## 6. Knowledge

Knowledge is a result of knowing and happens after someone sensing the specific object. The sensation occurs through five human senses like the sense of sight, hearing, smell, taste, and touch. Most of the human knowledge is obtained from vision and hearing. Understanding of cognition is an essential domain in developing human behavior (*over behavior*) (23).

This study result showed that most of the respondents lack knowledge, so it affected their understanding of the use of implant contraceptive method. Statistically tested, knowledge influence the use of implant shown by p-value  $p < 0.05$  on  $p = 0.000$ , while OR value is 49.058, meaning that respondents with sufficient knowledge have 49.058 times more chances to use implant than respondents with less knowledge.

This study obtains a different result from the previous study conducted in Mataram that stated that good knowledge has no significant relationship to the contraception use on reproductive-age women with OR=2.1 but p-value  $p > 0.05$  was  $p = 0.676$  meaning statistically nonsignificant (6).

Behavior is often influenced by how much the understanding of the matter, thus knowledge related closely with the behavior of beholder on deciding the health-promoting behavior, knowledge influence the decision making the process of the use of the contraceptive method  $p = 0.00$  and OR 2.224(24). The use of long term contraceptive method on knowledge factor has a higher relationship with OR=7.9 and CI 3.1-18.3(17)

The previous study result found there is a significant relationship between knowledge and contraception use. Someone's knowledge on a specific subject is different categorized by less, moderate and fair. This depends on the education method and the facility to obtain the knowledge. The study result showed that the majority of respondents have moderate knowledge. Based on this study, information to improve knowledge needed to be given on the family planning program (25).

This study result is in line with the theory by Notoadmodjo that states knowledge is a result of the learning process of an individual from not-knowing into knowing, and the individual who knows will tend to choose and act (23). The effort to increase society's awareness of using an implant provides information on reproductive-age women and their spouses. The adequate and appropriate knowledge on the subject will significantly affect the decision. An individual would have insight into the benefit, function, effectiveness, and side effect of implants that would encourage reproductive-age women to be confident and comfortable using an implant.

The researcher assumed that environment affects the entrance process of knowledge on the individual within the said environment. The environment could be constituted of community or health workers. Knowledge could be obtained through formal education such as school and informally through experience. Inside has a significant relationship to education. It is expected that an individual with higher

education to have a broader knowledge. It is concluded that the information exposed to reproductive age women on implant contraceptive method could influence their decision on the contraceptive method to be used.

## **7. Information from Health Workers**

Interpersonal communication or counseling is two-way conversational activities between client and health worker to facilitate various issues related to reproductive health service comprehensively. Therefore, prospective acceptors can make independent decisions on the suitable contraceptive tools or methods (26).

The study result showed that the majority of the respondents gain information from health workers. Even though the information is obtained, the effectiveness of information does not depend only on the frequency of information given to reproductive age women and spouse and the accuracy, and the clarity of the information could affect the comprehension of the information recipients. The repeated information sharing can be an awareness reminder of the importance of health. Statistically, the data from health workers significantly influences the use of implant shown by  $p$  value  $< 0,05$  on  $p$  0,000, while OR value is 1,125. It was indicated that the respondents who obtain information from health workers have 1,125 times more chances to use the implant as a contraceptive method than the respondents who did not receive information from health workers.

In a similar study on Duampanua Sub-district, Pinrang Regency, Makasar obtain the similar result that there is a significant relationship between information provision from health workers and the use of hormonal contraception with  $p$  value = 0.006. Information administration, health education, and the explanation on hormonal contraception is a form of support from health workers that contributed mainly to the use of contraception due to the explanation and support given (27). Communication and information have a significant relationship with  $p$ -value = 0.001(22).

The different results from the study in Aikmel Sub-district Lombok Regency based on the bivariate analysis using chi-square test, convey OR value = 2.7. It means that health workers who provide health information have chances to increase the contraception use rate but statistically insignificant, shown by  $p$  value  $> 0.05$  (6). This result is in line with the study conducted in Buton, South-East Sulawesi that stated information from health workers have no significant relationship to the implant contraceptive use with  $p$  value = 0.536(28)

The researcher assumed that accurate information has an enormous impact on someone's decision to act. Data from health workers provided to the society have to be performed comprehensively to increase the knowledge and proper understanding on health, particularly on implant contraceptive method to avoid the misconception on its' benefit and the function. Repeated information sharing from a reliable source is essential. An individual that knows would become prone to act based on the information learned.

## **8. Husband's support**

High compassion rate on family planning program is identified through a study in a various urban and rural area in Nigeria showed that 98.3% of male respondents stated that the decision of using the contraceptive method has to be decided together with their spouse to support each other on the contraceptive use(7)

This study result showed that half of the respondents supported by husbands on using contraception. Statistically tested, that husband's support influences the use of

implant offered by p-value  $<0.05$  is p 0.000 while OR is 1.287, meaning that the respondents with supportive husbands have 1.287 times more chances to use the implant contraceptive method than the respondents with non-supporting husband.

Husband's knowledge factor as the family planning program partner's partner is contributed as supporter and proponent to wife in deciding the contraceptive method. Husband with sufficient knowledge on implant tends to advocate wife to use the long term contraceptive method. Based on the respondents' responses, the husband will encourage the wife if the wife wants to use the implant. But it will not be enough to make the respondent choose implant because often, husbands leave the decision entirely on their wife as the subject to undergo the program. As stated in theory by Lawrence Green, a husband's support factor could be defined as antecedents or enabling factors that enable a motivation or aspiration. The combination of knowledge and husband's support with the wife's strong will on choosing the effective non-hormonal contraceptive method creates a unanimous decision between husband and wife on choosing the contraceptive method.

This study is in line with the study conducted in Aikmel Sub-district Mataram that stated husband's support have a significant relationship on the contraception use with p value=0.000 on a bivariate analysis using the chi-square test(6)

A similar result was also obtained from a study in Sulawesi that husband's support has a significant relationship with the use of a hormonal contraceptive method (*implant*) on husband-wife with p value=0.034. The contraceptive method would not be used by the wife if there is no cooperation from the husband on material support, attention, and spiritual support, and the wife tends to drop out of the contraceptive method if they do not obtain permission and support from their spouse (28). Husband support has a significant relationship to the use of hormonal contraception (*implant*) with p value=0.000 and becomes the most influential variable (27).

Husband support affects vastly on the decision of using the proper contraceptive method. Husband's awareness and participation in deciding suitable contraceptive methods show compassion that the reproductive health issues not only women's business. Involving the male to support family planning program by escorting wife to the health service or supporting financially and accompanying their spouse on the insertion and health education. The importance of the husband's support influences the women's decision to use the implant; thus, on the health education of implant contraceptive method, the husband has to be involved.

The researcher assumed that the community in Wae Mbeleng public health center still respects the culture value highly. The socio-cultural condition with a patrilineal system directing every decision-making, including the decision to use a contraceptive method, should be under the husband's permission. The decision taken is discussed together, but the final decision is on the husband as head of the family.

Husband (father) has a significant role in deciding the contraceptive method used by the wife. The husband's involvement in reproductive health, particularly in determining and selecting contraceptive methods, is essential. More often husband's absence of involvement creates a lack of knowledge of reproductive health, especially on contraceptive methods on the husband's side.

## CONCLUSION

The most influential variable on using the implant as a contraceptive family plan method is health workers' information. The effort to ease the information provision on reproductive-age women

involves public figure and religious leaders that are seen as role models to avoid the misinterpretation of family planning according to the beliefs.

## STRENGTH AND LIMITATION

The limitation of this study is on the data collection. Few respondents are having difficulty focusing on filling the questionnaire. In contrast, they take care of their under-five child, and respondents seem exhausted to fill in many questionnaire numbers that could affect the study result. This study is limited to investigating factors predicting the use of an implant. Other factors not studied, such as access to health services, role model, and other factors that might significantly influence the use of an implant.

This study result showed that the most influential factor in using an implant is health workers' information. Thus, interpersonal communication or counseling is needed to be improved. The counseling is two-way communication between client and health worker to facilitate and advocate help on every problem related to reproductive health comprehensively so the prospective family plan acceptor can take an independent decision on the best suitable contraceptive method for themselves.

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