



Long-Term Contraceptive Method Use among Married Women of Reproductive Age: Cross Sectional Study in South Sumatra

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Abstract

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BACKGROUND: The population of growth rate in Indonesia is still high, including South Sumatra. The use of modern contraceptives tends to stagnate at the moment.

AIM: This study aims to analyze the determinant of long-term contraceptive method use among married women of reproductive age in South Sumatra.

METHODS: This study is a quantitative study with a cross-sectional design. We used secondary data, Indonesia Health and Demographics Survey 2017. The unit of analysis in this study is reproductive age women (15–49 years) in South Sumatra who successfully became respondents to the 2017 IDHS and married status. The number of respondents was 686. We analyzed the predictor of long-term contraceptive method use using logistic regression.

RESULTS: The proportion of users of long-term contraceptive method was 18.2%. Factors related to the use of these contraceptives include received visits from health workers, number of living children, and mother's employment ($p < 0.05$). Respondent who received visits from health workers within the last 6 months was 2.7 times more likely to use long-term contraceptive method than respondent who did not receive a health worker visit.

CONCLUSION: Married women who get visits by health workers are more likely to use long-term contraceptive methods. This study result could be used as a reference for making policies that focus on increasing visit by health workers to married women and give counseling the benefit of long-term contraceptive method use.

Introduction

Contraception is defined as the prevention of conception intentional through various tools, sexual practices, chemicals, drugs, or surgical procedure. Whatever tool or actions whose purpose is to prevent a woman from becoming pregnant can be considered contraception [1]. Modern contraception is a product or procedure medical used intentionally to prevent pregnancy during intercourse with a relatively easier approach than traditional contraception. Modern contraceptive methods include pills, injections, IUDs, condoms, sterilization, and others [2]. Modern contraception proven to reduce maternal mortality and children because modern contraception can prevent unwanted pregnancies desired that leads on unsafe abortion [3], [4]. Some methods can even prevent transmission sexually transmitted infection [5]. In a broader context, the use of contraceptives can slow down the rate of population growth and reduce the economic burden of a country [6].

Long-term contraceptive method is a very cost effective method of contraception to prevent unwanted

pregnancies for 3–10 years [7]. In developing countries about 20–30% of women using oral or injectable contraception will discontinue within 2 years of starting because of side effects or health problems and many of these women benefit to Family Planning And Contraception Program [8].

Population growth in Indonesia continues to increase. One of the areas in Indonesia that has a significant population growth is in South Sumatra. This area has an area of 87,0174.41 hectares. Geographically, this province is bordered by Jambi province in the north, Lampung province in the south, Bengkulu province in the west and Bangka Belitung province in the east. South Sumatra Province experienced an increase in total fertility rate from 2.7 and 2.8 children per woman. One of the causes of the large population in the province of South Sumatra Selatan is the birth factor (fertility) [9].

Residents and the Government of the Province of South Sumatra have implemented a family planning program to control the population. One of the things that affect the population is births. Residents and the government of the province of South Sumatra have implemented a family planning program to control

the population. Birth has contributed in increasing the population [10]. However, the family planning program in South Sumatra faces the problem of inequality in active family planning participants and the use of contraceptives which can increase population growth in South Sumatra [11].

The previous studies have identified several factors associated with the use of modern contraception depending on the study site, starting from sociodemography [12], [13], [14], socioeconomic [15], and socio-cultural factors [16]. Another study conducted in India showed that there was a relationship between a woman's age, number of children, and a woman's education level on the use of modern contraception [17]. In married women, husband's approval can influence the use of modern contraception. In a study conducted in Ethiopia showed that women who were approved by their husbands to use modern contraception were 3 times more likely to use modern contraception than women who were not approved by their husbands. This study also shows that women who discuss with their husbands more than three times, are 7 times more likely to use modern contraception than women who do not discuss with their husbands at all about the use of modern contraception [18].

Research in Indonesia has explored a lot about the use of some contraception among married women in Indonesia [19], [20], [21], [22]. However, studies exploring the use of long-term contraceptive method among married women in South Sumatra are still limited. It is important to study this as the first step in efforts to increase the use of long term contraceptives method in South Sumatra. The purpose of this study was to analyze the use of long-term contraceptive method among married women of reproductive age in South Sumatra.

Materials and Methods

This research is a descriptive analysis research that used cross-sectional research design with non-experimental methods. We used secondary data from the 2017 Indonesian Demographic Health Survey (IDHS). The 2017 IDHS provides an overview of the current conditions regarding population, family planning (KB), reproductive health, and maternal and child health in Indonesia as a whole and collects information on socio-economic background, fertility, contraception, pregnancy and postnatal check-ups, child immunization, child health and nutrition, marriage, and other health issues. The main objective of the 2017 IDHS is to provide updated estimates of demographic and health indicators with the target respondents being women aged 15–49 years, married/living men aged

15–54 years, and unmarried male adolescents aged 15–24 years [23].

Participant

The unit of analysis in this study is women of childbearing age (reproductive age in 15–49 years) in South Sumatra who successfully become respondents to the 2017 IDHS who are married. The criteria used in this study were as follows: Inclusion criteria: Married women who use and do not use long-term contraceptive method, and aged 15–49 years. The exclusion criteria are women in infertile conditions (infecund) such as experiencing infertility, menopause or hysterectomy and missing data on respondents.

Measurement

The use of the long-term contraceptive method is the participation of married women in the South Sumatra region on the family planning program using the long-term contraceptive method including: IUD, MOW, implants. We divide into yes and no. Mother's age consists of at –risk, that is, <20 years and >35 years, no –risk, that is, 20–35 years. Mother's education consists of high (high school and college), intermediate (high school and junior high school), and low (elementary and no school). The number of children living consists of >2 children and 2 children, the number of children ideal with consists of 0–1 children, 2–3 children, and 4 children, mother's employment status was divided into not employed and employed. Economic status was determined based on the wealth index calculation. The wealth index was a composite measure of household's cumulative living standard. The wealth index was calculated using easy-to-collect- data on household ownership of selected assets, such as television and bicycles, materials used for housing construction, and types of water access and sanitation facilities. Wealth index was dividing into three categories based on quintile. Namely rich (Quintile 4–5), middle class (quintile 3), poor (quintiles 1–2), mass media exposure consists of exposed and not exposed, insurance ownership consists of yes and no. Visited by health officer consist of yes and no.

Data analysis

The data were analyzed using the chi square test because it used dichotomous variables and continued to multivariate analysis with logistic regression tests. We analyze the data with SPSS 32.

Ethical approval

Ethical approval from the National Ethics Commission at the Ministry of Health was obtained by

the 2017 IDHS. Respondents have provided written approval for their involvement in the study.

Results

Characteristic respondents

Univariable analysis is an early stage that is useful for explaining/describing the characteristics of each research variable (independent and dependent) according to the type of data. Univariable analysis in this study presented the value of the proportion or percentage of each variable (Table 1).

Table 1: Characteristics of respondent

Variable	n	(%)
Use of long-term contraceptive method		
Yes	125	18.2
No	561	81.8
Use of Non-long-term contraceptive method		
Yes	129	18.8
No	557	81.2
Mother's age		
< 20 and > 35	359	52.4
20–35	327	47.6
Mother's education		
High	69	10.1
Intermediate	313	45.6
Low	304	44.3
Number of Living Children		
> 2	268	39.1
≤2	418	60.9
Number of Children ideal		
0–1	89	12.9
2–3	468	68.3
≥4	129	18.8
Mother's employment status		
Employed	474	69.1
Not employed	212	30.9
Economic status		
Quintile 4–5	256	37.4
Quintile 3	122	17.8
Quintile 1–2	308	44.8
Mass media exposure		
Exposed	315	46.0
Not exposed	371	54.0
Insurance ownership		
Yes	480	70.0
No	206	30.0
Visited by Health Officer		
Yes	22	3.2
No	664	96.8

Table 1 explains that the proportion of respondent using long-term contraceptive method and Non-long term contraceptive method is only < 20% (18.2% and 18.8%, respectively). Respondent who aged <20 years and >35 years were 4.8% more than respondent who aged 20–35 years. Meanwhile, respondent with intermediate education had the highest proportion, which was 45.6%. Based on the number of children, respondent with the number of children living >2 children are 39.1% and respondent which states the ideal number of children is 2–3 children as much as 68.3%. Nearly 70% of respondent with employed, come from families with quintile 1–2 groups (44.8%), stated that they were not exposed to mass media (54.0%), had health insurance (70.0%) and were not visited by health workers within a period of time 6 months (96.8%).

Bivariable analysis was conducted to analyze the relationship between the independent variable and the dependent variable. Bivariable analysis using Chi-square test with $p < 0.05$. The results of the bivariable analysis are shown in Table 2.

Table 2 shows that various factors are related to the use of long term contraceptive method among respondent in South Sumatra Province, including mother's education, number of living children, mother's employment status, and economic status ($p < 0.05$). Respondent with intermediate education are 0.53 times less likely to use long term contraceptive method than respondent with low education (95% CI: 0.347–0.814). Meanwhile, respondent with more than 2 children had a 2.28 times higher probability of using long term contraceptive method than respondent with 2 children (95% CI: 1.533–3.386). In terms of mother's employment status, respondent with employed had a 2.72 times higher probability of using long term contraceptive method than respondent with non-working status (95% CI: 1.298–5.711). In addition to employment status, in terms of economic status, respondent with quintile 3 is 0.46 times less likely to use long term contraceptive method than respondent with quintile 1–2 (95% CI: 0.242–0.889). Other variables such as mother's age, number of children ideal, exposure to mass media, insurance ownership, and visited by health workers were not related to the use of long-term contraceptive method among respondent in South Sumatra ($p > 0.05$).

Multivariable analysis was used to relate several independent (independent) variables with the dependent (dependent) variables comprehensively using multiple logistic regressions with predictive modeling. The results of multivariable analysis are shown in Table 3.

Table 3 shows that the variables that are significantly related to the use of long-term contraceptive method among respondent in South Sumatra are visits by health workers, number of living children and mother's employment status. While the variables of mother's education and economic status as confounding variables (confounding). The variable with the greatest influence (most dominant) in this study was visited by health workers. Respondent who received a health worker visit in the last 6 months were 2.7 times more likely to use long-term contraceptive method than respondent who did not receive a health worker visit after controlling for variables such as number of living children, employment status, education level, and economic status (95% CI: 1.081–6.665).

Discussion

Family planning is a government program in an effort to control the population [24]. This program is intended to assist couples and individuals in achieving

Table 2: Association between independent variable and long-term contraceptive method use

Variable	Long-term contraceptive method use				Total		OR (95% CI)	p value
	Yes		No		N	%		
	n	%	n	%				
Mother's age								
< 20 and > 35	76	21.1	283	78.9	359	100	1.524 (0.937–2.479)	0.087
20–35	49	14.9	278	85.1	327	100	Ref	
Mother's education								
High	13	18.1	56	81.9	69	100	0.780 (0.334–1.770)	0.544
Intermediate	40	12.8	273	87.2	313	100	0.531 (0.347–0.814)	0.005*
Low	72	23.7	232	76.3	304	100	Ref	-
Number of Living Children								
> 2	69	25.8	199	74.2	268	100	2.278 (1.533–3.386)	<
≤2	56	13.2	362	86.8	418	100	Ref	0.0001*
Number of Children Ideal								
0–1	14	16.0	75	84.0	89	100	0.725 (0.319–1.650)	0.435
2–3	83	17.6	385	82.4	468	100	0.851 (0.503–1.440)	0.539
≥ 4	28	21.7	101	78.3	129	100	Ref	-
Mother's Employment status								
Employed	105	22.1	369	77.9	474	100	2.723 (1.298–5.711)	0.007*
Not employed	20	9.4	192	90.6	212	100	Ref	
Economic status								
Quintile 4–5	41	16.1	215	83.9	256	100	0.806 (0.434–1.496)	0.485
Quintile 3	13	10.7	109	89.3	122	100	0.464 (0.242–0.889)	0.022*
Quintile 1–2	71	22.9	237	77.1	308	100	Ref	-
Mass media exposure								
Exposed	48	15.4	267	84.6	315	100	0.701 (0.459–1.071)	0.097
Not exposed	77	20.6	294	79.4	371	100	Ref	
Insurance ownership								
Yes	97	20.2	383	79.8	480	100	1.613 (0.971–2.679)	0.063
Not	28	13.5	178	86.5	206	100	Ref	
Visited by Health Officer								
Yes	7	32.5	15	67.5	22	100	2.236 (0.831–6.017)	0.100
Not	118	17.7	546	82.3	664	100	Ref	

*Significant < 0.05. Ref: Reference i.

their reproductive goals [25]. Family planning is voluntary and there are several methods or contraceptives that are tailored to individual needs through a range of methods that are acceptable and effective if used properly [26]. Contraception can be done using traditional methods or modern methods. Modern contraception is a method of contraception created for couples to act on sexual urges and desires naturally with minimal risk of pregnancy [2]. In addition, based on the duration of its effectiveness, contraceptive methods are divided into long-term contraceptive methods (MKJP) and short-term contraceptive methods (non-MKJP). The long-term

method consists of Intrauterine Contraceptive Devices (IUD), Under Skin Contraceptive Devices (AKBK), Male Surgery Medical (MOP), and Female Surgery Medical (MOW) [27].

According to Law No. 36 of 2014 concerning health workers, it is stated that health workers have an important role to improve the maximum quality of health services to the community so that people are able to increase awareness, willingness, and ability to live healthy. The support of health workers such as doctors, midwives, nurses, and health cadres in the family planning program, namely, PLKB (Family

Table 3: Modeling of use of long-term contraceptive method

Variable	Modeling I		Modeling II	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Visited by Health Officer				
Yes	2.530 (1.073–5.965)	0.035	2.684 (1.081–6.665)	0.034*
No	Ref		Ref	
Number of living children				
> 2	1.962 (1.106–3.480)	0.022	1.976 (1.270–3.074)	0.003*
≤2	Ref		Ref	
Mother's employment status				
Employed	2.256 (1.062–4.794)	0.035	2.367 (1.121–4.996)	0.025*
Not employed	Ref		Ref	
Mother's education				
High	0.915 (0.360–2.322)	0.848	0.988 (0.404–2.415)	0.978†
Intermediate	0.640 (0.407–1.006)	0.053	0.620 (0.403–0.954)	0.031†
Low	Ref	-	Ref	-
Economic Status				
Quintile 4–5	0.808 (0.437–1.492)	0.486	0.787 (0.426–1.446)	0.432†
Quintile 3	0.480 (0.242–0.951)	0.036	0.481 (0.246–0.940)	0.033†
Quintile 1–2	Ref	-	Ref	-
Mother's age				
< 20 and > 35	1.087 (0.565–2.091)	0.798	-	
20–35	Ref			
Number of Children Ideal				
0–1	0.797 (0.349–1.819)	0.582	-	
2–3	1.103 (0.645–1.888)	0.714		
≥4	Ref	-		
Mass media exposure				
Exposed	0.798 (0.499–1.279)	0.340	-	
Not exposed	Ref			
Insurance Ownership				
Yes	1.631 (0.931–2.859)	0.086	-	
No	Ref			

*Significant < 0.05; †Confounding variables; Ref: Reference. Model 1: Full model. Model 2: Adjusted model include confounding test.

Planning Field Officers) plays an important role in encouraging the success of the family planning program itself [28]. Family Planning Field Officers, hereinafter abbreviated as PLKB, are Civil Servants who meet certain competency standards and qualifications who are assigned full responsibility, authority, and rights by the competent authority as implementing positions to carry out counseling, service, evaluation, and program development activities; Population, Family Planning, and Family Development. There are several roles of PLKB, namely, managing the implementation of population and National KB program activities in villages/kelurahan, driving community participation in population programs and National KB in villages/kelurahan, Empowering families and communities in the implementation of population and National KB programs in villages/kelurahan, mobilizing and partnership developer with various parties in the implementation of population and National Family Planning programs in villages/kelurahan [26].

This study results showed that respondent who received visits from health workers within the last 6 months were 2.7 times more likely to use long-term contraceptive method contraception than respondent who did not receive visits by health workers after controlling for variables such as number of living children, employment status, education level, and economic status (95% CI: 1.081–6.665). The results of this study are in line with research conducted in the Philippines which states that the interventions that have the most influence on the behavior of using modern contraception are women who visit health facilities and visits from health workers to conduct discussions about modern contraception [15]. In addition, research conducted in Indonesia stated that the use of modern contraception was higher among women who were visited by health workers [29]. Another study in Ethiopia also found that married women who received counseling about contraception from health workers were 3.72 times more likely to use modern contraception than those who did not receive counseling about contraception (95% CI: 2.11–6.56) [30]. This shows that the role of health workers in providing visits and providing IEC (counseling, information, and education) about the use of contraception and family planning services for women can increase the choice of contraceptive methods, especially long-term contraceptive methods (MKJP).

The delivery of information by health workers to family planning acceptors in terms of the types of contraceptives, their impact and use is one of the indicators of the success of the family planning movement. This is because the information provided by health workers through socialization/counseling becomes a reference or description to family planning acceptors about the benefits of family planning, thus triggering and encouraging infertile couple age (EFA) to participate in its use. In addition, the information given to the candidate or acceptor of family planning must be

conveyed completely, honestly and correctly regarding the contraceptive method to be used, possible side effects, complications, failures and contraindications of the method or contraceptive. For prospective family planning acceptors to use contraception longer and more effectively, it must begin with providing complete information. Information about various methods or adequate contraceptives makes person have good knowledge because he knows better what to do to space the birth of children and also helps a person to make choices in determining the method or means of contraception correctly. Information provided by health workers in the form of counseling will greatly assist acceptors in using and determining contraceptives that are suitable for prospective acceptors. To achieve this, it is hoped that information will be provided to prospective acceptors regarding all contraceptives so that acceptors do not only understand Short Term Contraception Methods (Non MKJP) but they also understand Long Term Contraception Methods (MKJP) [31].

This study has limitations, namely, using cross-sectional data so that it cannot see a causal relationship, besides that there are several variables that have not been explored due to limited data such as husband's and family support and side effects felt by women.

Conclusion

Married women who received visits from health workers in the last 6 months were more likely to use long term contraceptive method. The use of these contraception increases with visits by health workers to married women. It is recommended to the government for increasing health workers will continue to visit and counseling to married women about the benefits of family planning. It will trigger and encourage women to participate in the use of the contraceptive.

Ethical Considerations

Ethical issues (including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy) have been completely observed by authors.

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