



Research Article

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## Why Childbearing-Age Women Switch Contraception Methods into Long-Acting Permanent Methods (LAPM) in West Nusa Tenggara?

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### ABSTRACT

*Background:* The long-acting permanent method (LAPM) of contraception has been uncommonly by Indonesian women. However, few Indonesian women have switched their contraceptive methods into LAPMs, a cost effective method to limit the number of children with low odds of failure. The aim of this study was to explore the reasons of switching contraceptive methods into LAPMs by currently married Indonesian women aged 15-49 years old. A cross-sectional study was performed using a multistage cluster design. *Results:* Information was obtained from 6,341 women who were using or had recently been using contraception in the middle of Lombok, north of Lombok, and Bima (West Nusa Tenggara). It was found that a high proportion (9.6%) of women were switching contraception methods from injection or pills to implants or intrauterine devices (IUDs). The main reasons for switching were trying another method (42.6%) and the side effects of the currently used method (29.4%). Switching to LAPMs was significantly associated with age and knowledge about contraception ( $p < 0.01$ ). Women who chose to use LAPMs were more likely to continue using them after one year of use. Women aged > 35 years were more likely to choose LAPMs because, at that age, there is a greater health risk for women if they become pregnant. *Conclusion:* In conclusion, the results of this study indicated that women aged >35 years need to be intensively encouraged to use LAPMs.

**Key words:** Contraception, LAPM, Switching Contraception.

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### INTRODUCTION

In 1971, the family planning program in Indonesia successfully decreased the total fertility rate (TFR), which was 5.6 per 1,000 in 1971, to 2.2 per 1,000 in 2002. However, the TFR was relatively stagnant from 2002 to 2012, when it was 2.6. Meanwhile, the contraceptive prevalence rate (CPR) increased from 49.7% in 1997 to 62.0% in 2012 [1]. However, the Indonesian Demographic and Health Survey (IDHS) data in 2012 showed that the number of unplanned pregnancies remained high (14%). One of the causes for the high number of unplanned pregnancies was the inconsistent use of various contraception methods [2].

The inconsistent use of contraception and its discontinued usage usually occur among women after childbirth. Following childbirth, women often decide to change their contraception method on their own. They intend to determine the contraception method that is more effective at preventing pregnancies [3]. Long-acting permanent methods (LAPMs) are effective contraception methods that prevent unwanted pregnancies [2, 4, 5], are cost effective, and have no side effects [6]. LARCs also have a low failure rate [7].

Previous studies have shown that there have been several reasons why women change their contraception methods. One study was conducted on Brazilian women to understand the motivation behind their LAPM determination. The results from this study showed that Brazilian women who previously used the pill and

condom changed to LAPMs because they were afraid of getting pregnant. LAPMs were easy to use, while the pill had to be routinely consumed [4]. Another previous research also reported that British women switched their contraception method to LAPMs because they were easy to use, they also had concerns about health and side effects [8].

#### **Significance of the study:**

LAPM usage in West Nusa Tenggara has remained low compared to the other modern contraception methods. The IDHS data in 2012 showed that, of the women in West Nusa Tenggara, only 5.4% used implants as their contraception method, and 3.8% used intrauterine devices (IUDs) [1]. The aim of this study was to analyze why women of childbearing age in West Nusa Tenggara, who previously used other modern contraception methods, changed to LAPMs (IUD, implant, Tubectomy). This information would be beneficial in developing programs to increase LAPM usage in West Nusa Tenggara.

## **MATERIAL AND METHODS**

**Design:** A cross sectional design was used in the current study.

**Data source:** This research used Bima, Central Lombok, and North Lombok's Improving Contraception Mix Method (ICMM) end line survey data from 2015. ICMM has been an advocate of both research in family planning, and increasing the variation of contraception usage. This research has received approval from the Ethical Commission of the Faculty of Public Health, University of Indonesia, and has also obtained a statement of written consent from the respondents.

**Subjects:** The participants of this research were women of childbearing age who were 15–49 years of age from several districts in West Nusa Tenggara, which include Bima, Central Lombok, and North Lombok. This research used a multistage cluster sample design. Fifty villages were chosen from every district, and one community group was randomly selected from the villages. In the community group, 50 women were randomly selected for interviews. There were 7,473 women eligible as research subjects who had been using modern contraception methods. However, as many as 1,132 women were excluded from the analyses because of their incomplete covariate data. Therefore, the total number of participants was 6,341 women.

**Tools for the data collection:** This research used a questionnaire that contained inquiries concerning the respondents' characteristics (age, education), knowledge, socioeconomic status, and reasons for switching contraception methods.

LAPMs have been defined as methods that prevent pregnancy over a duration of more than two years (implant, IUD, and tubectomy). A woman could be assumed to be a LAPM user if she stated that she used implants, IUDs, or had a tubectomy. A woman could be considered a non-LAPM user if she used other methods (pill, injection, condom, coitus interruptus, or other traditional methods). The respondents were categorized as users who switched methods to LAPMs if they previously used other contraception methods, and changed to a LAPM method in the previous 12 months [3, 4]. The 2007 IDHS data showed that, during the first 12 months since starting the contraception usage, the number of pill and injection discontinuations was higher than the use of LAPMs.

The respondents were categorized into the following groups based on their age: 15–24 years, 25–34 years, and  $\geq 35$  years [3]. Education was categorized as high ( $\geq$  high school), middle (elementary school to junior high school), and low ( $\leq$  elementary school). Knowledge was judged from six questions that were consisted of two questions concerning the family planning method for spacing and limiting children, and four more questions concerning the duration of LAPM usage (IUD, implant, tubectomy, or vasectomy). Educational levels were divided into low (cutoff point  $<$  median) and high (cutoff point  $\geq$  median). The socioeconomic status was categorized into poor (quintiles 1 and 2), middle (quintile 3), and rich (quintiles 4 and 5) [9]. The reasons for changing the contraception methods were determined with 14 answers consisting of fail/still pregnant, want to get pregnant sooner, disagreement with the husband, want to use another method, do not want to have any more children, feel uncomfortable, consider the method impractical, have side effect/complaint, have health problems, regarded the method to be expensive or free, hard to get, recommended by a health provider, and other reasons if the respondents provided other reasons aside the given options. The respondents could choose more than one reason, and the 14 answers from the respondent were categorized as medical reasons, personal reasons, access reasons, and other reasons [4].

**Statistical analysis:** The analyses were conducted using SPSS 22. Descriptive analyses were conducted to see the proportions of variables including age, education, knowledge, socioeconomic status, and the reasons for changing contraception methods. Bivariate analyses using chi-square tests with a 95.0% confidence interval were conducted to see the relationship between age, education, knowledge, socioeconomic status, and LAPM use as the last contraception method.

## RESULTS

The proportion of respondents who changed contraception methods to LAPMs was only 9.6%. Most respondents were  $\geq 35$  years old (44.7%), had a low education level (73.8%), were knowledgeable about contraception (68.6%), and were categorized as poor (59.7%) (Table 1).

Most respondents used injections (80.1%) before changing to LAPMs. For the respondents who previously used injections, most chose to change to the implant method, and a few had a tubectomy (Table 2).

**Table 1.** Characteristic Respondent Demography in West Nusa Tenggara 2015

Variable	n=6341	%
<b>Switch Contraception method into LAPMs</b>		
Yes	608	9,6
No	5733	90,4
<b>Age</b>		
$\geq 35$ years old	2836	44,7
25 – 34 years old	2614	41,2
15– 24 years old	891	14,1
<b>Education</b>		
High	335	5,3
Moderate	1327	20,9
Low	4679	73,8
<b>Knowledge</b>		
High	4347	68,6
Low	1994	31,4
<b>Social Economy</b>		
Rich	1094	17,3
Moderate	1462	23,1
Poor	3785	59,7

**Table 2.** Contraception Usage before Using LAPMs in West Nusa Tenggara 2015

Previous Contraception	n ( 608)	Using LAPMs		
		Tubectomy	Implant	IUD
Injection	493 (80,1%)	22 (3,6%)	385 (63,3%)	80(13,2%)
Pill	121 (19,7%)	5 (0,8%)	92 (15,1%)	23 (3,8%)
Natural Birth Control	1 (0,2%)	0	0	1 (0,2%)

The main reasons women of childbearing age changed contraception methods to LAPMs were personal reasons intending to use another method (42.6%) and medical reasons concerning side effects (29.4%) (Table 3).

The analyses concerning the relationship between demographic characteristics in women of childbearing age (15–49 years old) and LAPM switching showed that, at the age of  $\geq 35$  years, there was a tendency to change contraception methods to LAPMs (52.1%) compared to the ages of 15–24 and 25–34 years. The respondents who had low educational levels chose to switch contraception methods to LAPMs (76.0%). The respondents who had a high knowledge about contraception (75.2%) tended to switch contraception methods to LAPMs compared to the respondents who had a low knowledge about contraception (5.8%). Furthermore, the respondents with a poor status (57.4%) were more likely to switch contraception methods compared to the other groups (Table 4).

**Table 3.** Reasons of Respondent Switched Contraception Method into LAPMs

Variable	n	%
<b>Reason of the Last Contraception Usage</b>		
<b>Personal Reason</b>		
Failed/still pregnant	18	3,0
Wanted to get pregnant soon	9	1,5
Disagreement from husband	4	0,7
Want to try other methods	259	42,6
Unwanted to have more children	2	0,3
Uncomfortable	69	11,3
Practice	10	1,6
<b>Medical Reason</b>		
Side Effect/ Complaints	179	29,4
Health problem	21	3,5
<b>Access Reason</b>		
Expensive	19	3,1
Free	28	4,6
Hard to get	2	0,3
Recommendation from health provider	2	0,3
<b>Another reason</b>		
	1	0,2

**Table 4.** Relationship between Demographic Characteristic and Switching Contraception Methods to LAPMs in Women of Childbearing Age 15–49 Years Old in West Nusa Tenggara 2015

Variable	Switching Contraception Methods to LAPMs				p
	Yes		No		
	n	%	n	%	
<b>Age</b>					
≥ 35 years old	317	52.1	2,519	43.9	< 0.01
25–34 years old	243	40.0	2,371	41.4	
15–24 years old	48	7.9	843	14.7	
<b>Education</b>					
High	33	5.4	302	5.3	0.32
Moderate	113	18.6	1,214	21.2	
Low	462	76.0	4,217	73.6	
<b>Knowledge</b>					
High	457	75.2	3,890	67.9	< 0.01
Low	151	24.8	1,843	32.1	
<b>Socioeconomic Status</b>					
Rich	124	20.4	970	16.9	0.10
Moderate	135	22.2	1,327	23.1	
Poor	349	57.4	3,436	59.9	

The bivariate analyses with chi-square tests showed that there was a significant relationship between age, level of knowledge, and switching contraception methods to LAPMs. There was no significant relationship between educational level and socioeconomic status and switching of contraception methods to LAPMs.

## DISCUSSION

In this research, switching contraception methods to LAPMs of the contraception acceptor who previously used non-LAPMs and then changed to LAPMs (IUD, implant, and Tubectomy) in the previous 12 months was investigated. In these analyses, of the 6,341 respondents, the percentage who changed contraception methods to LAPMs in the previous 12 months was 9.6%, while the percentage of those who did not change was 90.4%.

The results from this research showed that the percentage of LAPM users in women of childbearing age (15–49 years) in three districts (North Lombok, Central Lombok, and Bima) in West Nusa Tenggara was low (9.6%). The respondents who used injections and pills decided to use LAPMs at the last contraception usage. When the respondents decided to use LAPMs, the options mostly used were implants (78.4%) followed by IUDs (17.0%)

and tubectomy (4.4%). The research by White *et al.* (2013) on women in Latin America showed that women did not want to use IUDs because they often resulted in bleeding and stomach cramps [10].

Based on these results, most of the participants who switched contraception methods to LAPMs were  $\geq 35$  years old, followed by those groups who were 25–34 and 15–24 years old, respectively. The bivariate analyses results showed significant relationships between age and switching the contraception method to LAPMs. These results were consistent with a research done by Bulto *et al.* (2014) [11] in Debre Markos Town, North West Ethiopia, which was done on women aged 40–44 years who were more likely to choose LAPMs compared to women aged 15–19 years. This was because the older women already had more than one child and they then would decide to limit or space their pregnancies compared to younger women who did not have children or only had one child. Based on Hosseini *et al.* (2014), women who were already at the last stage of their reproductive age were more likely to choose LAPMs [12]. The respondents' reasons for changing contraception methods to LAPMs were because of personal and medical reasons. The personal reasons included women being afraid to get pregnant and LAPMs being easy to use. Moreover, the reasons women changed contraception methods to LAPMs were also because LAPMs have been very effective, easy to use, and safe. Switching contraception methods to a more effective contraception method has been usually suggested [8].

Most of the respondents who changed contraception methods to LAPMs had a high knowledge of contraception. Moreover, most of the respondents had already known about the contraception methods, the duration of usage, and the benefits. This study also showed a significant relationship between the level of knowledge and switching contraceptive methods to LAPMs. This result was consistent with a research done by Alemayehu *et al.* (2012) in Mekele Town, Tigray Region, North Ethiopia, that stated that there was a significant relationship between knowledge and LAPM usage [13].

Programs to increase the use of LAPMs should be conducted with consistent efforts and government supports with a regional policy. The variables of knowledge and the women's age have been important keys to increasing the usage of LAPMs aside from other variables that have not been included yet. Women of childbearing age should receive information related to LAPMs continuously, so their knowledge would improve, and they would like to use LAPMs. The program must also be given to women older than 35 years, and those who do not want more children, since it can prevent unwanted pregnancies.

The results from this research had limitations. Cross-sectional research could only show the relationship between the independent and dependent variables, not the cause and effect relationship. Apart from this, this research only used social demography variables and respondents' reasons; however, this research would have benefited from adding other variables, including side effects, parity, and the place where the women lived (urban, rural).

## CONCLUSION

The determination of LAPMs contraception usage in three districts in West Nusa Tenggara was low (9.6%). Most women of childbearing age chose to use LAPMs when they were already 35 years old because they wanted to try other methods because of the side effects and complaints. Most respondents were more likely to choose LAPMs, such as implants followed by IUDs. There were significant relationships between age, level of knowledge, and switching contraception methods to LAPMs.

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**Ethical Approval**

This study received ethical approval from the Ethics Commission, Faculty of Public Health, University of Indonesia, and number Ref: 149/H2.F10/PPM.00.02/2015. This study also obtained a statement of written consent from all the respondents.

**Conflict of Interest**

The authors declared that they had no conflicts of interest.

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