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CONTRACEPTIVE SWITCHING PATTERN AMONG MARRIED WOMEN IN EAST JAVA

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Abstract: Switching of contraceptive methods contributes to high unplanned pregnancy rates, if the switching of contraceptive methods not rational, effective and efficient. Basic Health Research Data (2010), still found 49.4% of women in Indonesia who have more than 3 children, but still using short-term contraceptive methods. If there is no discipline in the use, short-term contraceptive use will be a risk of failure. In addition, problems that occur at the onset of switching methods are also at risk of increasing unwanted pregnancies. This is due to the inaccuracy of process switching methods (Steel & Diamond, 1999). The aims of this study was to analyze the suitability of switching contraceptive method based on age, contraceptive purposes and number of children. This Cross-Sectional study was conducted on 4705 married women. The results showed that 84.4% of women had incompatible patterns of switching of contraceptive methods. 67.4% of women over the age of 35, 57.9% of women who aim to limit their pregnancies, and 68.9% of women with two or more children switched to other contraceptive methods, but still in the non-long-term method category. Perceptions of contraceptive cost is the most dominant factor affecting the incompatible patterns of switching of contraceptive methods. Meanwhile, the source of services is a confounder factor in the relationship between perceptions of contraceptive costs and incompatible patterns of switching of contraceptive methods. Women who want to change contraceptive methods need accurate advice from the health providers about contraceptive method to make effective choices.

Keywords: Contraceptive Switching, Contraceptive Method, Pattern Switching, Rational Contraception

Introduction

Switching from one method to another is a natural and common occurrence in the cycle of use of contraceptive methods. In the implementation of the Subsystem Recording and Reporting of Contraceptive Services conducted by the National Population and Family Planning Board has recorded up to February 2015 the total cumulative number of participants who changed the method reached 183,253. This showed the participants' interest to change the method quite high.

Change method of contraception is not a problem if it is done with a rational, efficient and effective. The rational is the use of permanent contraceptive methods based on clear objectives, whether to delay, exclude or limit pregnancy. Selection of effective methods of contraception is to consider how far the method is reliable and safe and comfortable in its use. Meanwhile, the selection of efficient methods considers the costs to be incurred compared to how far these contraceptives can be used.

For Fertile Women who want to space or limit birth, switching to Long Term Contraceptive Method (LTCM) is preferred (USAID, 2006). Besides effectively used for spacing or limiting births, LTCM has many other advantages. In terms of cost, LTCM is relatively cheaper because it requires only one setting-up for a long

period of time. LTCM is also relatively safer to use. For example, IUDs that are long-term contraceptive devices that have no systemic effects circulating throughout the body, do not affect milk production and rapid fertility once IUD is removed (Puspitasari and Winarni, 2011). In

fact, in contraceptive methods, many FP participants choose short-term contraceptive methods that are susceptible to drop out and the hormone content of the method is feared to cause unfavorable side effects for its users (Toersilaningsih and Ekoriano, 2013). This is supported by the report on the Implementation Subsystem for Recording and Reporting of Contraceptive Services which shows only 22.87% of old family planning participants who choose to change the way using LTCM (BKKBN, 2013)

The result of Budyawati & Purwanto research also showed that the interest of contraceptive usage both current usage and future desire were dominated by non-LTCM, in other words, LTCM tend to be less desirable (Budyawati and Purwanto, 2011). Indonesia Demographic and Health Survey data (2012) showed that the using of LTCM by Indonesian FP participants only reached 10.6%, the rest prefer using non-LTCM.

Under recommended conditions for using LTCM, many women still choose to use non-LTCM. This can be seen from the results of Basic Health Research (2010), which showed that 49.4% of women who have more than 3 children, still using non-LTCM. Indonesia Health Demographic Survey Data (2012), showed that when women have two or more surviving children, the desire to limit births increases. However, efforts to limit births were realized using non-LTCM (injections and pills types). In addition, the phenomenon of women with risk factors is too old, and too close to the previous birth distance prefer non-LTCM than LTCM (Budijanto, 2013). In fact, for women who do not wish to have more children or who are aged more than 35 years old, switching to LTCM especially a permanent method is more advisable (USAID, 2006).

In the use of non-LTCM, if less discipline in control can cause the occurrence of unwanted pregnancy. This is supported by information from the Center for Data and Information, Ministry of Health of the Republic of Indonesia (2013) which explained that non-LTCM ranging from 1-3 months gives 20-40% chance to break use of contraception. Therefore, the risk of unwanted pregnancy is very likely to occur. Not to mention the problem of switching contraceptive methods that occur at the beginning of the switch is also at risk of increasing unwanted pregnancy. This is due to the inaccuracy of switching procedure of the method (Steel and Diamond, 1999). The same is also expressed in the WHO's policy brief which states that failure to switch after-stopping methods is a common cause of unwanted pregnancies (WHO, 2012).

The problem of switching the methods described above, becomes the basis for this research. This study was conducted on married women and using contraception in East Java. The reason for choosing this region because East Java is one of the big cities in Indonesia which is densely populated. Human Development Index (HDI) in 2013 amounted to 73.54. The unmeet rate in this area was lower than the national rate of 10.1%. However, people who use LTCM are low. The objectives to be achieved in this research is to evaluation of suitability of contraceptive switching pattern when changing a method to another based on participant conditions, such as age, family planning motivation and number of children. The existence of user factors (demand side) were analyzed its contribution in forming suitability of contraceptive switching pattern.

It is hoped that the results of this study can contribute to find out the dominant factors affecting the conformity of contraceptive methods, so that appropriate steps or intervention programs can be developed. This research was conducted by analyzing secondary data from Improving Contraceptive Method Mix (ICMM) project implemented by Center of Health Research-University of Indonesia (PPK-UI) in 2013.

Methodology

The design study was cross sectional with research subject 4798 Women Age Fertile that married and using contraception. The research area were in East Java Province covering Kediri, Tuban and Lumajang districts. To obtain a description of the variables under study, the data were analyzed by using univariate analysis. In order to know the factors that proven to contribute to the suitability of contraceptive switching pattern, the

data were analyzed by using Chi-Square test and followed by Multilevel multiple logistic regression to find the dominant variable related to the suitability of contraceptive switching pattern. This research was conducted by analyzing secondary data from Improving Contraceptive Method Mix (ICMM) project implemented by Center of Health Research- Universitas Indonesia (PPK-UI) in 2013.

Result

Contraceptive Switching Patterns

In this study, the contraceptive switching pattern were divided into four category namely the change from non LTCM to LTCM, LTCM to LTCM, LTCM to non LTCM and non LTCM to non LTCM. Based on data analysis, most participants (77.2%) switched method from one to another are still in non MKJP categories. A detailed description of the switching pattern of contraceptive methods can be seen in Figure 1.

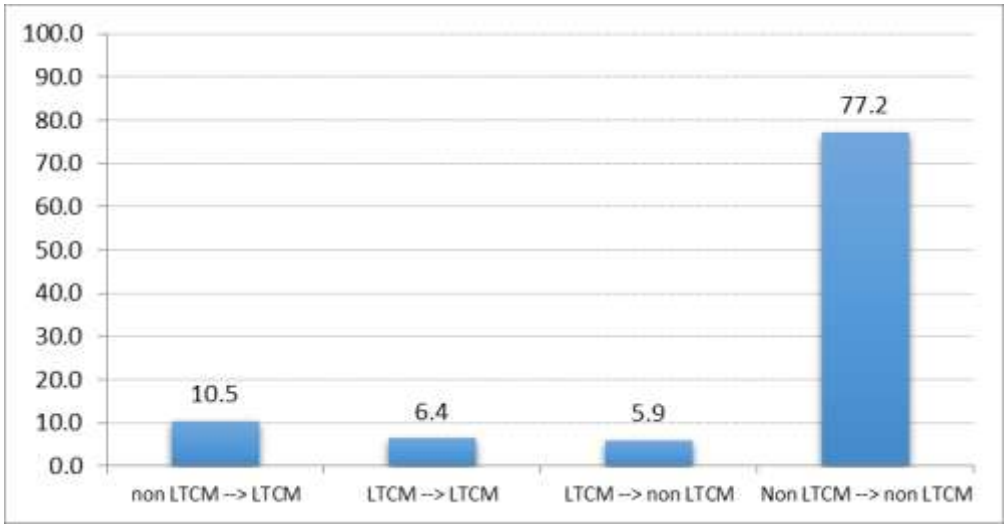

Figure 1. Distribution of Married Women Based on Contraceptive Switching Pattern in East Java 2013

Here in after is description related to suitability of contraceptive switching pattern. In this study, the contraceptive switching patterns was viewed from three aspects: age, family planning motivation and number of children. An illustration of the conformity of the pattern of replacement of contraceptive methods based on these three aspects can be seen in table 1.

Table 1. Distribution of Married Women by Age, FP Motivation, Number of Children And Contraceptive Switching Pattern In East Java 2013

Determinant Factors	Contraceptive Switching Pattern			
	Non LTCM -> LTCM (%)	LTCM -> LTCM (%)	LTCM -> Non LTCM (%)	Non LTCM -> Non LTCM (%)
Age				
< 20 Years	1.5	3.8	0.0	94.7
20–35 Years	7.2	4.0	2.4	86.3
>35 Years	14.2	8.8	9.6	67.4
FP Motivation				
Spacing	6.3	4.9	4.5	84.3
Limiting	22	10.5	9.6	57.9

Number of Children				
There is no	0.0	0.0	0.0	100.0
1 Children	3.7	5.0	3.2	88.2
≥2 Children	15.5	7.6	8.0	68.9

Suitability of contraceptive switching pattern Based on Age

The age variables are grouped into three categories, which are less than 20 years old, 20 to 30 years and over 35 years old. In the three categories of age, the contraceptive switching patterns were dominated by the switch of a method to another method that is still in the category of non-LTCM. In fact, when a woman has passed the age of 35 years, the replacement of contraceptive methods is more advisable to the use of LTCM. However, 67.4% of women aged 35 years or older tend to choose non-LTCM as the next preferred method of contraception. Only 14.2% chose to change methods from non LTCM to LTCM. While others, there are also 9.6% women over 35 years that switching of method with a less recommended pattern that is from LTCM to non LTCM.

Suitability of Contraceptive Switching Pattern Based on Family Planning (FP) Motivation

In this study, FP motivation were grouped into two categories namely to space and limit pregnancies. At the time of the method change, it was seen in each category dominated by women who still chose the non-LTCM type as an alternative to the next method of birth control. In fact, women who have the motivation to limit pregnancy, more advisable to switch to using LTCM. However, the results showed there were 57.9% among them still tend to choose non LTCM as an alternative to the next method. Only 22.0% of women chose to change their method from non-LTCM to LTCM. In addition, there are also 9.6% of women who want to limit pregnancy were switching from LTCM to non-LTCM.

Suitability of Contraceptive Switching Pattern Based on Number of Children

In this study, the number of children were categorized into three groups: no children, one child and more than two children. If a woman already has two or more children, then it is recommended to switch to using LTCM. However, the results show that 68.9% of women who have two or more children continue to use the non-LTCM type as an alternative to the next method. Only 15.5% of women choose to switch from non LTCM to LTCM. In addition, there are also 8.0% of women switch of method with the not expected of pattern (switch from LTCM to non LTCM).

Suitability of Contraceptive Method Switching Pattern Based on Age, Family Planning Motivation, and Number of Children

After modification variation contraceptive switching pattern with age, motivation of family planning and number of children, hence obtained information related to distribution of participant based on suitability of contraceptive switching pattern. The results of data analysis showed, there were 4046 of 4798 women (84.7%) experienced unsuitability of contraceptive switching pattern. The detail description can be seen in table 2.

Table 2. Distribution of Married Women by Suitability of Contraceptive Switching Pattern in East Java 2013

the suitability of contraceptive switching pattern	**n = 4705**	**%**
Yes	3991	84.8
No	714	15.2

Indeed many factors influence the suitability of contraceptive switching pattern. In this study, the user factor (demand side) allegedly closely related to the suitability of contraceptive switching pattern. To understand more deeply the interrelationship of demand side factors in shaping suitability of contraceptive switching pattern, hence can be seen picture of result of research shown in table 3.

Table 3. Distribution of Married Women Based on Unsuitability of Contraceptive Switching Pattern and Demand Side Factors

Variables	n = 4705	Unsuitable patterns of contraceptives switching methods (n = 3991)	
		Frequency (%)	P value
Demand SideFactors			
knowledge			
low	2669	2292 (85.9)	0.022*
high	2036	1699 (83.4)	
Decision maker			
Woman and husband	855	705 (82.5)	0.037*
Woman	3850	3286 (85.4)	
Feel the side effects			
Yes	1059	936 (88.4)	<0.001*
No	3646	3055 (83.8)	
Inconvenience in using contraceptives	121	105 (86.8)	0.633
Yes	4584	3886 (84.8)	
no			
Contraceptives cost perception	352	276 (78.4)	<0.001*
expensive	2337	2079 (89.0)	<0.001*
Standard	1405	1212 (86.3)	<0.001*
cheap	611	424 (69.4)	
free			
Difficulties in using	4432	3783 (85.4)	<0.001*
Standard/Difficult	273	208 (76.2)	
Easy			
Individual Chatacteristics			
Educational background			
Low	3599	3052 (84.4)	0.709
Middle	870	741 (85.2)	0.628
High	236	198 (83.9)	
Contraception's Factors			
Accessibility			
Easy	4540	3870 (85.2)	
Difficult	165	121 (73.3)	<0.001*

Service Provider Factors (Individual Data)			
Provision of information			
Yes	2550	2169 (85.1)	0.655
No	2155	1822 (84.5)	
Type of service sources			
Government	711	463 (65.1)	<0.001*
Private	3623	3203 (88.4)	0.645
Others	371	325 (87.6)	
Service provider factors (District Level Data)			
Amount of FP Field Officer			
not Ideal			
Ideal	3118	2668 (85.6)	0.047
	1587	1323 (83.4)	

Budget Allocation	**n**	**Average SD**	**P value**
Contraception switching pattern			
Unsuitable			
	3991	0.10%	0.910
		0.04%	
Suitable			
	714	0.10%	
		0.04%	

***) Correlated significantly with alpha 0.05**

Based on table 3 it is known that the variables of knowledge, decision makers, perceived side effects from previous contraceptives, perception of contraceptive cost and perception of contraceptive method showed significant correlation (α = 5%) with suitability of contraceptive switching pattern.

In addition to illustrating the demand side factors, Table 3 also illustrates other variables that are also suspected to be related to the suitability of the contraceptive switching pattern, but to be confounder factors in this study. The confounder factors are individual characteristics (level of education), ease of obtaining contraceptives, factors of service providers (giving of information, type of service source, number of family planning field officers, budget allocation). Based on the result of bivariate analysis, it was known that the confounder factors that proved to be significant correlation (α = 5%) with the suitability of contraceptive switching patterns were the ease of obtaining contraception, and the type of service source.

To find out the dominant demand side factor influence the appropriateness of contraception method after controlled by confounding variable, multivariate analysis. The result of the analysis showed that the perception variable to contraceptive cost has the greatest contribution in shaping the suitability of switching pattern of contraceptive method. However, the relationship between these two variables is also influenced by the confounding variable that is the type of service source. The detail description can be seen in table 4.

Table 4. The Demand Side Factors Associated With Suitability of Contraceptive Switching Pattern After Controlled Tool Factors, Individual Characteristic and Family Planning Services

Variable	Pvalue	OR 95% CI
Perception of contraceptive cost		
Expensive	<0.001	0.51 (0.38-0.68)
Ordinary	0.004	0.64 (0.48-0.87)
Cheap	0.682	0.93 (0.67-1.30)
Free		1
Source of Services		
Government	<0.001	0.32 (0.25-0.39)
Private	<0.001	0.31 (0.22-0.44)
Others		1
MOR of Level District = 1.00		

Women who perceived that the cost of expensive contraceptives had a chance of 0.51 times (95% CI 0.38 - 0.68) to experience unsuitability of contraceptive switching pattern compared to women who said the cost of a contraceptive was free, after being control of variables the type of service source. It can also be interpreted that women who said the cost of contraceptives were expensive, had a 1.96-fold chance of experience a suitability of contraceptive switching pattern compared to women who said the cost of a contraceptive was free after control of variables the type service source.

While women who said that the cost of their contraceptives entered the usual category, had an opportunity of 0.64 times (95% CI 0.48 - 0.87) to experience a unsuitability of contraceptive switching pattern compared to women who said their contraceptives were free. It could also be interpreted that women who said their contraceptive costs were in the usual category had 1.56 occasions to experience a suitability of contraceptive switching pattern compared to women who said their cost of contraception were free.

Women who say that their cost of contraceptives were in the cheap category have an opportunity of 0.93 times (95% CI 0.67 - 1.30) to experience a unsuitability of contraceptive switching pattern compared to women who say their contraceptives were free. It could also be interpreted that women who said their cost of contraceptives entered a cheap category had a chance of 1.08 times to experience a suitability of contraceptive switching patterns compared to women who said their contraceptive cost were free.

Based on the explanation regarding the contribution of women's perceptions about the cost of their contraceptives in establishing suitability of contraceptive switching patterns, it can be concluded that the more expensive the cost of contraception According to the participants, the more likely they were to experience a suitability of contraceptive switching patterns.

Participants who received family planning services from a government service center had a chance of 0.32 times (95% CI 0.25 - 0.39) to experience unsuitability of contraceptive switching pattern compared to those receiving FP services from others after control of the perception of contraceptive cost variables. It can also be interpreted that participants who receive family planning services from

government service centers have an opportunity of 3.13 times to experience suitability of contraceptive switching pattern compared to participants receiving FP services from others after control of contraceptive costs perception variables.

Participants who received family planning services from private service centers had a chance of 0.31 times (95% CI 0.22 - 0.44) to experience unsuitability of contraceptive switching pattern compared to participants receiving FP services from others after control of contraceptive costs perception variables. It can also be interpreted that participants who receive family planning services from private service centers have an opportunity of 3.23 times to experience suitability of contraceptive switching pattern compared to those receiving FP services from others after control of the contraceptive costs perception variables.

Discussion

The result showed that when women who change their current method to another methods, non-LTCM types remain their choice. In fact, not necessarily non-LTCM methods in accordance with their conditions. Age factors, family planning motivation and the number of children should be considered in choosing the right type of contraception.

At the age of less than 20 years, due to health reasons, a woman is recommended to postpone pregnancy (Setiyaningrum and Aziz, 2014). While pregnancy and birth are best, it means the lowest risk for mothers and children is at the age of 20-30 years. At the age of more than 35 years, a woman enters a high risk phase for pregnancy and childbirth (USAID, 2006). Due to different conditions of women in the above-mentioned age range, the type of contraceptive used is also different. At the age of less than 20 years, the type of non-LTCM is most recommended. Meanwhile, in the age range 20-35 years, the use of LTCM (IUD type) is preferred to be used. At the age of more than 35 years, the main type recommendation of contraception is LTCM (sterile type) (USAID, 2006). When referring to the above explanation, many women in East Java use contraceptive types that do not match their age.

In choosing the type of contraception used, the motivation of family planning should also be considered. In the planning of family, there are three phases that can be passed, namely the phase of delaying pregnancy, pregnancy phase and do not want to get pregnant again. For each of these phases, different types of contraceptive recommendations may be used. For the postponing phase of pregnancy, the main recommendation is the non-LTCM (pill type). Meanwhile, for the phase of pregnancy, it is better to use LTCM (IUD type). For phases of stop the pregnancy, the main recommendation use LTCM (sterile type) (USAID, 2006). If the theory is referred to evaluate the suitability of contraceptive methods, it can be concluded that many women in East Java experience a unsuitability in the contraceptive switching pattern. Some women in this study wanted to limit their pregnancies. However, their efforts to limit pregnancy are more likely to change their contraceptive methods to other methods that are still in the non-LTCM category. Risk of drop out can occurs. If drop out occurs, the possibility of an unwanted pregnancy may also occur.

In addition to age, and family planning motivation, the number of children is also a determinant factor in choosing contraceptives. This is supported by Singh and Joshi's remarks that the number of live children is not only a determinant of contraceptive use but also in the choice of contraceptive methods

used (Singh and Joshi, 2014). If already has more than two children, then the use of LTCM (sterile type) is more recommended (Setiyaningrum and Aziz, 2014). This has enough scientific reasons, where the first and second pregnancies are at the lowest risk (USAID, 2006). That is, when a woman performs a third childbirth and so on, then there is a risk that threatens the health of himself and his child. But the reality found in this study is that most women have two or more children, still prefer non-LTCM as their method of contraception. It can be concluded that there are still many unsuitability of switching patterns of contraceptive method based on the number of children.

After analyzing the suitability of switching pattern of contraceptive method by modifying switching pattern of contraceptive method with age variable, family planning motivation variable and child number variable, it can be said that most women experience unsuitability of switching pattern of contraceptive method.

In this study, it appears that most women who experience suitability of contraceptive switching pattern were women who get contraceptives for free. This can happen because in some districts such as Tuban and Lumajang have applied free contraceptives for the entire population, not just for the poor families. There are two components of service costs in financing calculations: components of contraceptive costs and consumables, and service cost components. For non-LTCM such as pills, participants pay only the registration fee, while contraceptives are already funded by National Population and Family Planning Agency, but are not included for medication in case of side effects. For LTCM, participants pay registration fee, consultation, medical service and consumables. If the participant does not want the brand that provided National Population and Family Planning Agency, then the participant must pay the cost of the contraceptive device itself, except for the poor participants where the cost borne by the government. The availability of free contraceptives by government institutions encourages FP participants to choose contraceptives that are appropriate to their condition without thinking about the expensive cost of contraceptives.

Conclusion

The research results showed that most women in East Java experienced an unsuitability of contraceptive switching patterns. The most dominant factor determining the suitability of contraceptive switching pattern of method was the participant's perception toward contraceptive cost. Women who feel that their contraceptives are free from government, tend to experience suitability of contraceptive Switching pattern. It can be said that participants more freely choose the appropriate method of contraception and they want unhindered of the cost factor. Therefore, government intervention in rational, efficient and effective use of family planning is needed, especially in the provision of quality family planning services at affordable cost.

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