

# DETERMINANTS FACTORS OF VASECTOMY METHOD SELECTION

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## ABSTRACT

**Introduction:** The level of male participation in family planning by choosing vasectomy in East Lampung region Pekalongan health centers is still low, although the success rate of vasectomy as family planning is very high. This study aimed to explain the factors related to the men's choice of vasectomy in the Pekalongan health center East Lampung. **Methods:** This study used an analytical study design with a cross-sectional approach. Samples were 117 men in reproductive age gathered by using purposive sampling. The independent variables were knowledge, attitudes, parity, age, availability of health resources and infrastructure, health education, attitude and behavior of health care workers and family support. The dependent variable was the men's participation in vasectomy as family planning. Data were retrieved using questionnaires and statistically analyzed using Chi-Square test. **Results:** Factors affecting the selection of vasectomy as family planning in men with reproductive age were an attitude ( $p=0,020$ ), parity ( $p=0,022$ ), age ( $p=0,021$ ), the availability of health resources and health infrastructure ( $p=0,018$ ), and family support ( $p=0,011$ ). However, the knowledge, health education, and the attitudes and behavior of health workers did not affect the selection of vasectomy as family planning. **Discussion:** Public Health Centres are expected to build a family planning services, especially for vasectomies, such as the provision of vasectomy facilities which can reach the community and the establishment of cadres for male birth control.

**Keywords:** family planing; vasectomy; Lawrence Green

## INTRODUCTION

Male participation is one of the success indicators for contraception program in creating a small family with qualities. Participation of male/husband could be direct and indirect form. Direct participation is using one of contraception methods such as condom, vasectomy, coitus interrupt, or periodic abstained method (BKKBN, 2005). The data of active contraception participant in Indonesia based on BKKBN year 2015 amounts 29,790,000 persons or 17,4% from total Indonesian populations and the number of male active contraception participant were 1.247.940 persons (4,1%), the rest is female with various contraception methods. Male who actively follow the contraception program and prefer to choose vasectomy were 148.560 persons (11,9%) and the others were 1.099.380 persons (89,1%) using a condom as contraception.

Data of BKKBN in 2014 at Lampung Province, 86 persons have chosen vasectomy from total 47,268 male who joined active contraception program, while the number of males who used a condom as contraception reached 20.068. Based on these data revealed that East Lampung Regency was had the lowest number of male using vasectomy, 3 persons from 10 members who eligible for vasectomy contraception.

East Lampung Regency has several districts with dense population, one of them is Pekalongan which is divided into 13 sub-districts. Pekalongan has the highest number of men in productive age at East Lampung Regency, but the presentation of vasectomy contraceptive participation was only 2.3% of the total number of men using contraceptives. Those are majority located in Sidodadi, part of Community Health Center at Pekalongan (Pekalongan, 2015).

Vasectomy is one of contraception method with high effectiveness for male because has limited clinical side effect, non-hormonal, effective for a long period with only single intervention. Vasectomy is a minor surgery contraception method on male which is safe, simple, and effective, no need much time for surgery and without general anesthesia. Vasectomy can do in general health facility with minor surgery room.

Although the cost for vasectomy is relatively cheap and affordable, as well as many men are eligible to use vasectomy, men still prefer to use other contraceptive methods such as condoms (BKKBN, 2015). Men who use condoms argue that condoms are simpler and require no action from medical staff, available in stores, pharmacies, free to choose, and do not interfere sexual intercourse. But in fact, condoms can not be used in the long term, there is still a risk of leakage, discomfort

during sex, and can reduce the sensitivity of the penis (Tejo, 2009). Based on that phenomenon this study aimed to determine the factors related to the selection of vasectomy as contraceptive methods in men on reproductive age at Pekalongan East Lampung.

**METHOD**

This was an analytical study with cross sectional design. The population in this study were men in reproductive age who actively use contraception in Puskesmas Pekalongan East Lampung Regency. Samples were 117 respondents selected using purposive sampling technique or often called judgment sampling. The independent variables in this study were the knowledge, attitudes, number of children, age, availability of health resources and infrastructure, health education, attitude and behavior of health care workers, and family support. The dependent variable was the selection of vasectomy.

The research instrument was used questionnaires that composed based on the theory that in accordance with the study variables. The questionnaires validity and reliability were tested first before they were

used for data collection. Data obtained then processed using descriptive analysis and Chi-Square data analysis with 95% significance ( $\alpha \leq 0.05$ ).

**RESULTS**

The correlation between knowledge and vasectomy selection described in table 1. The majority the respondents had the sufficient level of knowledge (62.4%), but the number of respondents who selected vasectomy as their contraception were just 56 men (47.9%). Chi-Square analysis test obtained that there was no correlation between knowledge and vasectomy selection with  $p=0.652$ .

Table 2 showed that the attitude of the respondents either in vasectomy and non-vasectomy group mostly in a positive category which was 59 men (50.4%). Respondents who participated as vasectomy acceptor and had positive attitude were 29.9%, it was higher than non-vasectomy group. Non-vasectomy respondents had negative attitude by 31.6%. It means that there was a correlation between attitude and vasectomy selection as shown by the statistical test with  $p=0,020$ .

Tabel 1 The correlation of knowledge and vasectomy selection using Chi-Square Test

		Participation of contraception				Total	%
		Non Vasectomy		Vasectomy			
Knowledge	Good	15	12.8%	10	8.5%	25	21.4%
	Sufficient	36	30.8%	37	31.6%	73	62.4%
	Low	10	8.5%	9	7.7%	19	16.2%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square*  $p=0.652$

Tabel 2 The correlation of attitude and vasectomy selection using Chi-Square Test

		Participation of contraception				Total	%
		Non Vasectomy		Vasectomy			
Attitude	Negative	37	31.6%	21	17.9%	58	49.6%
	Positive	24	20.5%	35	29.9%	59	50.4%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square*  $p=0.020$

Tabel 3 The correlation between the number of children with vasectomy selection

		Participation of contraception				Total	%
		Non Vasectomy	%	Vasectomy	%		
Parity	2 children	25	21.4%	11	9.4%	36	30.8%
	More than 3	36	30.8%	45	38.5%	81	69.2%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square* p=0.022

Tabel 4 The correlation of age with vasectomy selection

		Participation of contraception				Total	%
		Non Vasectomy	%	Vasectomy	%		
Age	Less than 30	15	12.8%	4	3.4%	19	16.2%
	More than 30	46	39.3%	52	44.4%	98	83.8%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square* p=0.021

Tabel 5 The Correlation of health resources and infrastructure availability with vasectomy selection

		Participation of contraception				Total	%
		Non Vasectomy	%	Vasectomy	%		
Health resource and Infrastructure	Negative	35	29.9%	19	16.2%	54	46.2%
	Positive	26	22.2%	37	31.6%	63	53.8%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square* p=0.018

The number of children usually being a factor that can be a consideration in choosing the contraceptive method. Based on table 3, could be shown that most respondents had more than three children (69.2%). This statement was supported by Chi-Square statistical test which was obtained that there was a correlation between the number of children with vasectomy selection (p=0.022).

Table 4 showed that the age of respondents who participated in choosing vasectomy as contraceptive method were more than 30 years old (44.4%). While on the non-vasectomy group the number of respondents who had age more than 30 years old were 39.3%. The results of correlation analysis

using Chi-Square statistical test revealed the significant value of p=0.021, which means that there was a relation between age with vasectomy selection.

Based on table 5, it can be explained that the availability of health resources and infrastructure both in vasectomy and non-vasectomy group were in a positive category (53.8%). Respondents who participated in vasectomy group had positive health resources and infrastructure by 31.6%, while in the non-vasectomy group by 22.2%. The results of Chi-Square test obtained the significant value of p 0.018, which means there was a relation between health resources and infrastructure with vasectomy selection.

Tabel 6 The correlation of health education with vasectomy selection

		Participation of contraception				Total	%
		Non	%	Vasectomy	%		
		Vasectomy					
Health	Never	47	40.2%	36	30.8%	83	70.9%
Education	Ever	14	12.0%	20	17.1%	34	29.1%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square* p=0.188

Tabel 7 The correlation of attitude and behavior of health workers with vasectomy selection

		Participation of contraception				Total	%
		Non	%	Vasectomy	%		
		Vasectomy					
Attitude and	Negative	18	15.4%	9	7.7%	27	23.1%
Behavior	Positive	43	36.8%	47	40.2%	90	76.9%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square* p=0.133

Tabel 8 The correlation of family support with vasectomy selection

		Participation of contraception				Total	%
		Non	%	Vasectomy	%		
		Vasectomy					
Family	Negative	35	29.9%	18	15.4%	53	45.3%
Support	Positive	26	22.2%	38	32.5%	64	54.7%
Total		61	52.1%	56	47.9%	117	100%

Statistical test  
*Chi-Square* p=0.011

Based on table 6, majority respondents (70.9%) never got health education about contraception, especially vasectomy. However, the number of respondents in vasectomy group were 47.9%. It indicated that health education did not have a significant effect on the selection of contraceptive method as shown by statistical test using Chi-Square which is had p=0.188.

Based on attitude and behavior of health workers in table 7, we can see that majority health worker already had a positive attitude and behavior (76.9%). But however, this fact was not the dominant factor that affects the decision of the respondents to choose the contraceptive method. It can be seen from the result of a statistical test using Chi-Square that there was no correlation between attitude and behavior of health workers with vasectomy selection with p=0.133.

The last factor that gathered on this study in correlation with vasectomy selection

method was the family support. Table 8 showed that 35 (29.9%) respondents were mentioned that they had negative family support in choosing the contraceptive method, in non-vasectomy group, while 38 (32.5%) respondents in vasectomy group had positive family support. This number indicated that respondents who had been select vasectomy as their contraception had higher positive family support than those who in non-vasectomy group. By using Chi-Square test, the p-value was 0.011, means that family support was had a contribution for the respondents to choose to participate in vasectomy or not.

## DISCUSSION

From the results, knowledge level of respondents about vasectomy was just insufficient level. It might be caused by the level of education of many respondents who had junior and senior high school level of

education. According to Mubarak (2007) the higher education could make the information more easily transferred and received, and ultimately the more knowledge could be gained. Conversely, if the level of education is low, it will hinder the development of one's attitude to receiving information and new introduced values. However, the number of non-vasectomy respondents were higher than respondents who participate actively using vasectomy. And there were still some respondents who had good knowledge but did not participate in vasectomy. This means that the level of knowledge does not guarantee a person will commit an act or behavior health. Skinner (1938) in Notoatmodjo (2012) stated that behavior is a person's reaction to a stimulus from the outside, but in responding, it depends on the characteristics or other factors of the person concerned. This means that even though the stimulus is the same for some people, but the response of each person is different. However, there were respondents who had a low level of knowledge participated actively in vasectomy. This can occur as a result of the family planning persuasive program from the government, whoever participated in using vasectomy will be given the money, so even though the respondents had less knowledge, respondents still participated in vasectomy program. From the analysis, there was no correlation between knowledge and the selection of vasectomy. It means that a good knowledge of vasectomy does not affect man decision to choose vasectomy. The results of this study are supported by other studies which suggested that income, knowledge, age and attitude of public figures does not affect the use of vasectomy contraception (Muklison, 2015).

The results of the study in the distribution frequency of attitudes toward vasectomy selections showed that more respondents had a positive attitude than the negative one. A positive attitude towards vasectomy is determined by respondents' votes for vasectomy themselves. A positive attitude arises from positive beliefs. Total respondents who had positive attitude mostly used vasectomy than non-vasectomy, but those who had negative attitude mostly did not participate in using vasectomy. Attitude is a reaction or response which was still closed from one to a

stimulus or object (Notoatmodjo, 2012). According to Allport in Notoatmodjo (2012) components that built the attitude is; 1) faith (belief), ideas and concepts, to an object; 2) the emotional life or evaluation of an object; 3) the tendency to act. Thus, a person's belief or conviction of an object affect the action to be performed.

The analysis of attitude relation with vasectomy selections showed that there were respondents who had a positive attitude but did not use vasectomy, as well as respondents who had negative attitude participate actively in vasectomy. It happens as a result of the government's program about vasectomy in East Lampung. There is two kinds of community participation method according to Notoadmojo (2012), participation by coercive means to force the public to contribute to the program (through legislation, regulations or verbal commands), then the second is participation by persuasion and education. The positive trust will form a positive attitude. Furthermore, a positive attitude makes a person's tendency to act positively as well. If someone has negative beliefs or negative concept, it will form a negative attitude then create a difficulty to act positively.

On the other perspective, the number of children could be one of the factors that affected the men's decision to participate in vasectomy selection. In Indonesia, the number of children often related to economic status. Most respondents worked as farmers and had a low income per month. Pratiwi on her research (2011) mentioned that family income was the indicator of the economic factors, and it affects the number of children ever born. Respondents who had living children more than 3 have a tendency to more active participate in vasectomy than respondents who have two children. It is because the vasectomy is more effective than other types of contraceptive method for men so that respondents prefer to choose vasectomy to terminate the pregnancy. The effectiveness of vasectomy is in the range between 99.6%-99.8%, very safe and no long term side effects, only once apply, effective in the long term, and cost efficiency (Saifuddin, et al ., 2010).

There was a correlation between the number of children and vasectomy selection. This means the respondents who had children

more than 3 have a tendency to participate in the selection of vasectomy, than who have two children. The results of this study are supported by Arsila's research (2014) which stated there is a relation between the number of children with the decision to use birth control. In another study, the couples with the number of children living there are still low tendency to use contraceptive methods with low effectiveness, while the number of couples with many children living there is a tendency to use high effectiveness contraceptive method (Purwoko, 2000).

The other factor that had a correlation with the selection of vasectomy method was age. However there were respondents who had two children and use vasectomy, this is probably caused by the age of the respondents. According to Manuaba (2009), at the age of 35 or more is the time for terminating the reproduction. This statement also concordant with the age rate of vasectomy group on this research. Participants who are 30 years old or more tend to use the long-term effectiveness of contraception.

The frequency distribution of the health resources and infrastructure availability showed that more respondents positively assess the infrastructure that they got. This indicates that most respondents are easy to access and to get the vasectomy. But from the questionnaire analysis showed that more respondents answered no place to get vasectomy around their place, as well as a few respondents who get explanation about vasectomy. The availability of health resources and health infrastructure makes the tendency to participate in vasectomy. It is common that the respondents did not participate in vasectomy, due to the unavailability of resources and infrastructure. Healthcare is one of the parameters to determine the health status of the community (Tangkilisan et al., 2015), in addition, Ariyanti (2016) in her study said, the availability (quantity and distribution) of health resources contributes towards achieving family planning program. Lawrence Green (1991) in Nursalam (2013) also stated one of the factors that influence health behavior is the availability of health resources and infrastructure. So, the quality of access to family planning services is one important element in achieving reproductive health services (Saifuddin, 2010).

Another fact that obtained through this study is that majority respondents do not ever get health education about contraception or vasectomy. This is because the majority of respondents worked as a farmer, most of their time spent on agricultural land which is at the time of health center services so that most respondents could not get health counseling. Respondents who had no health education about vasectomy will show a lack of information about vasectomy, which will cause the respondents tend to avoid vasectomy. However, based on the result, high level of knowledge about birth control and vasectomy after getting health education does not guarantee a person will participate actively in vasectomy. The expected outcome of health promotion is health behaviors, or behavior to maintain and improve the health level. (Notoatmodjo, 2012).

Although many respondents said that they never got health education but majority they agree that the health workers already had positive attitude and behavior. The attitudes and behaviors response of the health workers was reflected in the questionnaire in which most respondents said that health workers are kind to explain about vasectomy. Attitudes and behavior of health workers will affect the client to follow the advice given by health workers (Notoatmodjo, 2003). But, the statistical result showed the difference. It showed that health care attitude and behavior had no correlation with vasectomy selection. This might indicate that the most important things from the performance of health care provider are the real action, how to stimulate the awareness of health among the community, not just exhibit the kind attitude and behavior.

The last factor which is obtained as the factor that affects men's decision in using vasectomy was family support. Based on the answers to the questionnaire, respondents agree that planning the number of children was part of family's emotional support. The one that still had minimal support from the family was the informational support. Lack of support information provided by the families either because they lack knowledge and there are many respondents in low social economic level. According to (Putri et al., 2016) family support affected by family's ability to cover what they need. The family fulfillment capabilities related to income level or family

socioeconomic level, where families with higher socio-economic level will give better family support. A family support according to Friedman (2010) is an attitude, a family perception towards other members, with information, appraisal, instrumental and emotional support. From these supports are what will categorize family support received by respondents. This study found that respondents who get good support from families participate more actively vasectomy. If the respondent does not get the support and consent from wife, vasectomy could not be done. Family support is a form of interpersonal relationship which includes attitudes, actions, and acceptance of family members so that the family members feel comfort (Friedman, 2010). The results of this study supported by previous studied that conducted by Widoyo (2010) and Muklison (2015) where there is a significant correlation between the family support (wife) with vasectomy selection.

## CONCLUSION

Attitude, the number of children, age, health resources and infrastructure availability and family support are factors that affect men's decision in the selection of vasectomy, while knowledge, health education, attitude and behavior of health workers are not factors for someone to participate in vasectomy.

Nurses are expected to arrange the intervention to increase men's interest and motivation to participate in vasectomy actively. The intervention also needs to be complement with affordable facilities and active cadres engagement.

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