

## FACTORS OF TUBAL LIGATION USE FOR AGE LESS THAN FORTY IN URBAN AREAS OF PANGKALPINANG, BANGKA BELITUNG PROVINCE, INDONESIA

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### ABSTRACT

#### Keywords:

Tubal Ligation,  
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Tubal ligation is a long-term contraceptive and relatively non-adverse, but the problem is that fecundity return surgery for couples who want to change plans to add more children cannot be guaranteed and the cost is very expensive. The research aims to analyze the factors that influence tubectomy contraception for acceptors aged less than 40 years in Pangkalpinang City in 2016. The research type was explanatory with a cross-sectional design. The sample was tubectomy contraceptive acceptors of 95 people. Data analysis was performed using a *Chi-square* test to determine the relationship between variables. The results showed there was no relationship between maternal education ( $p=0.512$ ), husband's education ( $p=0.802$ ), maternal job ( $p=0.522$ ), parity ( $p=0.533$ ), knowledge ( $p=0.484$ ), and support from their husband ( $p=0.622$ ) with tubectomy less than 40 years of age. The reasons for tubectomy that are most often cited are related to health factors and family factors/number of children. Almost all respondents (98%) stated that they were satisfied after having a tubectomy seen from several factors including the reasons underlying the desire for tubectomy, the amount of support, the attitude, and role of the husband, support from the family, community, and role models, and easy access to costs and places to get tubectomy health services.

### ABSTRAK

#### Kata Kunci:

Tubektomi,  
Keluarga Berencana,  
Usia kurang dari 40  
tahun

Kontrasepsi tubektomi merupakan kontrasepsi relatif dan jangka panjang yang tidak mempunyai efek samping, akan tetapi yang menjadi permasalahannya, yaitu operasi pengembalian fekunditas bagi pasangan yang bermaksud mengubah rencana keinginan untuk menambah anak belum dapat dijamin dan biaya yang dikeluarkan cukup mahal. Penelitian ini bertujuan untuk menganalisis faktor yang mempengaruhi dalam pemilihan kontrasepsi tubektomi pada akseptor usia kurang dari 40 tahun di Kota Pangkalpinang tahun 2016. Penelitian ini merupakan *explanatory research* dengan pendekatan *cross-sectional*. Akseptor kontrasepsi tubektomi sebesar 95 orang merupakan sampel penelitian ini. Data dianalisis dengan *Chi-square* test. Hasil Penelitian menyatakan bahwa tidak terdapat korelasi pendidikan ibu ( $p=0.512$ ), pendidikan suami ( $p=0.802$ ), pekerjaan ibu ( $p=0.522$ ), paritas ( $p=0.533$ ), pengetahuan ( $p=0.484$ ), dukungan suami ( $p=0.622$ ) dengan tubektomi usia kurang dari 40 tahun. Alasan tubektomi yang paling banyak diinformasikan adalah yang berkaitan dengan faktor kesehatan dan faktor keluarga/banyak anak. Hampir semua responden (98%) menyatakan puas setelah melakukan tubektomi dilihat dari beberapa faktor diantaranya alasan yang mendasari keinginan tubektomi, besarnya dukungan, sikap dan peranan suami, dukungan dari keluarga, masyarakat dan tokoh panutan serta kemudahan dalam akses biaya dan tempat dalam memperoleh layanan kesehatan tubektomi.

## INTRODUCTION

Indonesia is the fourth largest country in the world with a total population of more than 273 million people based on World Population Data Sheet 2020 (1). The average Total Fertility Rate (TFR) of ASEAN countries is 2.4, while Indonesia's TFR is above 2.6 based on the

Indonesia Demographic and Health Survey (IDHS) 2017 (2). The government through the National Population and Family Planning Board targets the TFR in 2020 to be 2.26 (3).

Meanwhile, the average Population Growth Rate from 2010-to 2018 is 1.33% per -

year. The total population of Indonesia in 2050 is estimated to be 337 million people. The total population of Indonesia is 265,015.3 thousand, consisting of 133,136.1 males and 131,879.2 females (4).

The high rate of population growth can certainly hamper the pace of development growth in various sectors. The Family Planning Program is one of the efforts to reduce the birth rate in Indonesia (5).

Family planning is an attempt by couples of childbearing age to measure the distance and number of children expected, including preventing pregnancy and planning for future families. Principles of contraceptive methods, namely preventing the fertilized egg from developing and implanting the uterus or preventing the male sperm from reaching and fertilizing the egg (6).

Some of the factors that cause the success of family planning programs in Indonesia include usage, side effects, effectiveness, safety frequency, desire, and ability to apply contraception regularly/periodically and correctly. In addition, is the role of religion, cost, and cultural considerations regarding contraception. Another cause is the number of relationships or sexual behavior carried out (7). According to the contraceptive service feedback report, several factors that influence the choice of contraception consist of internal factors, including knowledge, education, age, occupation, parity and attitude, and external factors, which are health workers, economy, socio-culture, husband and family support (8).

According to the results of the 2017 IDHS, the number of children born alive by a woman experienced a slight change to 2.4. Based on these data, the Contraceptive Prevalence Rate (CPR) is still 57% and couples of childbearing age or *Pasangan Usia Subur* (PUS) who wish to space and delay births but are not served are 11%. Several contraceptive methods are widely used, including injections (29%), birth control pills (12%), implants (5%), Intrauterine devices (IUD) (5%), and tubectomy (4%) (2).

The advantages of performing a tubectomy are that it is safer, more effective (failure rate of 1%), and economical because it only requires one procedure. Although there are many advantages of tubectomy, in reality, its coverage in Indonesia is relatively small (9).

Based on data from the National Population and Family Planning Board of the Bangka Belitung Islands Province in 2014, the results of the services for New family planning participants are condoms 409 acceptors, injections 20,503 acceptors, pills 10,219 acceptors, IUDs 1,511 acceptors, implant 1,389 acceptors, tubectomy 682 acceptors and vasectomy 99 acceptors. These data show that the use of tubectomy contraception is still low in the Bangka Belitung Islands area (10).

The number of tubectomy acceptors in 2014 was 1,701 women spread over seven sub-districts in Pangkalpinang City. The achievement of New Family Planning Participants until June 2016 reached 43.59% of the Estimated Community Demand / *Perkiraan Permintaan Masyarakat* (PPM) or as many as 19,306 participants. For long-term contraceptive methods or *Metode Kontrasepsi Jangka Panjang* (MKJP) on family planning participants, there are 3,839 participants (19.89%) of the number of new participants. For new tubectomy family planning participants, it reached 43.80% of the PPM. Pangkalpinang City is the region with the highest achievement, which has exceeded the PPM by 109.52% (11).

Based on data obtained from the National Population and Family Planning Board in Pangkalpinang City, tubectomy is quite frequently done by women under the age of 40 years which is the reproductive age for women. According to the background that has been described, the author wants to know more about the influencing factors in the selection of tubectomy contraception. This study aims to analyze what factors influence the choice of tubectomy contraception in family planning acceptors under 40 years of age.

## METHODS

This research is *explanatory research* with a cross-sectional approach. The research location was conducted in Pangkalpinang City. The sample of this study was some of the wives of couples who performed tubectomy contraception in 2016, as many as 95 acceptors.

Data were collected using a questionnaire with multiple choice answers and a structured questionnaire. Data were analyzed descriptively and results reported in the form of

frequency distribution and percentage (%). Bivariate analysis in this study used *Chi-square* with a confidence interval at the confidence level of 95% (95% CI).

## RESULT

**Table 1.** Characteristics of Respondents

Characteristics	f	(%)
<b>Age at Tubectomy</b>		
25-29	6	6.3
30-34	31	32.6
35-39	38	40
40-44	19	20
45-49	1	1.1
<b>Mother's Education</b>		
No formal education	2	2.1
Did not pass primary school	10	10.5
Primary School	23	24.2
Did not pass Middle School	5	5.3
Junior High School	15	15.8
Did not pass High School	1	1.1
Senior High School	36	37.9
Diploma/College	3	3.2
<b>Husband's Education</b>		
No formal education	1	1.1
Did not pass primary school	5	5.3
Primary School	17	17.9
Did not pass Middle School	5	5.3
Junior High School	17	17.9
Did not pass High School	3	3.2
Senior High School	41	43.2
Diploma/College	6	6.3
<b>Mother's Job</b>		
Government employees	3	3.2
Employee/Labour	3	3.2
Trader	11	11.6
Housewife	78	82.2
<b>Parity</b>		
0	2	2.1
2	14	14.7
3	43	45.3
4	15	15.8
5	13	13.7
> 5	8	8.5
<b>Total</b>	<b>95</b>	<b>100</b>

The following Table 1 are the results of the respondents' analysis based on the characteristic background. Based on Table 1, it shows that the majority of women who perform tubectomy are in the range of age 35-39 years (40%). The last education of the respondent and husband is in high school respectively at 37.9% and 43.2% with the respondent's occupation as a housewife (81.1%) and the husband's occupation as an employee/laborer (51.6%) with the number of parity and parturition, namely three children at 45.3% and 48.4%, respectively.

**Table 2.** Frequency Distribution of Respondents' Opinions on the Last Method of Family Planning

Last Contraception Method	f	(%)
Pill	33	33.7
Injection	33	33.7
Condom	19	19.4
Implants/Implants/IUD	7	7.1
IUD (in Womb)	6	6.1
<b>Total</b>	<b>95</b>	<b>100</b>

The results presented in Table 2 illustrate that the majority of respondents used the pill and injection as the last method of family planning program before deciding to have a tubectomy with the same percentage of 33.7%.

**Table 3.** Frequency Distribution of Respondents' Opinions on the Reasons for Choosing Tubectomy Contraception

Reasons for Tubectomy	f	(%)
Health Factor	51	44.3
Family Factor (Many Children)	38	33
Economic Factor	18	15.7
Other	8	7
<b>Total</b>	<b>95</b>	<b>100</b>

Based on the results presented in Table 3, women perform tubectomy due to health factors (44.3%) and many children (33%). As for other factors (8%), respondents reasoned because of old age they did not want to have more children and did tubectomy on their own accord.

Based on the presentation in Table 4, the results of the bivariate analysis show that there is no correlation between education ( $p=0.512$ ),

**Table 4.** Summary of Bivariate Analysis Results of Relationship between Characteristics of Mothers Age Less than 40 Years Old with Tubectomy Incidence

Variable	Tubectomy				p value
	< 40		≥ 40		
	f	%	f	%	
<b>Mother's Education</b>					
Below middle level	73	79.3	19	20.7	0.512
Intermediate level equivalent/higher	2	66.7	1	33.3	
<b>Husband's Education</b>					
Below middle level	37	77.1	11	22.9	0.802
Intermediate level equivalent/higher	38	80.9	9	19.1	
<b>Mother's Job</b>					
Working	13	72.2	5	27.8	0.522
Doesn't work	62	80.5	15	19.5	
<b>Parity</b>					
1-2	13	81.3	3	18.8	0.553
>2	62	78.5	17	21.5	
<b>Knowledge</b>					
Well	65	80.2	16	19.8	0.484
Enough	10	71.4	4	28.6	
<b>Husband Support</b>					
Support	73	78.5	20	21.5	0.622
Does not support	2	100	0	0	

husband's education ( $p=0.802$ ), mother's occupation ( $p=0.522$ ), parity ( $p=0.533$ ), knowledge ( $p=0.484$ ) and husband's support ( $p=0.622$ ) for the use of tubectomy contraception in women aged < 40 years.

## DISCUSSION

There is high interest of family planning acceptors for tubectomy contraception in mothers with education, most of whom are below the middle level (elementary to middle school), but have good knowledge about tubectomy, mothers who do not work and have parity >2, number of parturitions >2 and get support from their husbands and parents. Husband's education is equivalent/higher to secondary level (high school to college). This is due to easy access to information on types of contraceptives obtained from friends, health cadres, family planning field officers, midwives, or electronic media. This has a major impact on the decisions of mothers in choosing tubectomy contraception. Good knowledge of tubectomy contraception (including understanding, duration of use, limitations, advantages, contraindications, and side effects) has an impact on the desire and stability of the mother to understand tubectomy contraception and

willingness to become an acceptor. Each contraceptive method has its advantages and disadvantages; tubectomy contraception can reduce the rate of population growth.

The reasons for the steadiness of using tubectomy for mothers under 40 years are mostly mothers who have enough children (>2 children) and do not want more children / *Tidak Ingin Anak Lagi* (TIAL) in the future. Some of them are caused by health factors where the mother feels that an unhealthy physical condition will have a bad impact if she has another child. In addition, economic factors are the reason for performing a tubectomy because of the consideration of the child's future, especially for families with lower middle economic conditions. Another reason was due to old age and no desire to have any more children, so they decided to perform a tubectomy of their own volition.

As many as 95 respondents were asked about the reasons for doing tubectomy, and the most frequently mentioned were those related to health reasons (44.3%). The factor of family/many children is the second biggest reason (33%) of respondents choosing tubectomy. Other reasons for doing a tubectomy, is because of economic factors (15.7%) because of old age, not wanting to have more children, and doing it on their own accord.

### **Relationship between Mother's Education and Tubectomy at Age Less than 40 Years**

The results of the study stated that 73 acceptors (79.3%) with education below the middle level (elementary to middle school) chose tubectomy aged <40 years, while mothers with equivalent/higher secondary level education (high school to college) were two acceptors (66, 7%) who chose tubectomy aged <40 years. Statistically, it was proven that there was no correlation between the respondent's education and tubectomy at the age of less than 40 years ( $p=0.512$ ). The respondents' tubectomy was not determined by their education. It could be that the respondent's education is low or high, but they chose to have a tubectomy for other reasons.

According to research conducted in Medan in 2012, there was no correlation between education and tubectomy for women of childbearing age ( $p=0.498$ ), whereas in low education (elementary to middle school) 63 respondents (73.3%) preferred to perform tubectomy compared to 23 respondents (26.7%) with higher education (high school to college) (12).

Several studies stated the results of  $p=0.055$  (13),  $p=0.71$  (14), and  $p=0.629$  (15) from which it can be concluded that there is no correlation between education and female operative method of contraception or *Metode Operatif Wanita* (MOW). This indicates that individuals with higher education do not necessarily choose to use tubectomy contraception. There may be other reasons that underlie one's thinking in making choices and using tubectomy contraception.

With a higher level of education, the knowledge will also increase and it will be easier to receive and understand information. If a person's level of education is low, it will be difficult to provide services. Likewise, understanding every direction given is due to low absorption. A person's education makes information easier for couples of childbearing age to receive in family planning services (16).

### **The Relationship between Husband's Education and Tubectomy at Age Less than 40 Years**

The results showed that there are as many as 37 husbands (77.1%) with education below the middle level (elementary to middle

school), whose wives did a tubectomy aged <40 years, while as many as 38 husbands (80.9%) had the equivalent/higher education at the middle level. (high school to college) whose wives did a tubectomy aged <40 years.

Statistically, it has been proven that there is no correlation between a husband's education and the choice of tubectomy by wives aged less than 40 years ( $p=0.802$ ). The wife's tubectomy is not determined by her husband's education. It could be that the husband's education is low or high, but the wife still chooses to have a tubectomy for other reasons.

### **The Relationship between Mother's Work and Tubectomy at Age Less than 40 Years**

The results showed that as many as 62 acceptors (80.5%) who did not work (housewife) chose tubectomy aged <40 years. While working mothers as many as 13 acceptors (72.2%) chose tubectomy aged <40 years. Statistically, it was proven that there was no relationship between the respondent's occupation and tubectomy at the age of less than 40 years ( $p=0.522$ ). The respondent's tubectomy is not determined by their occupation.

Tubectomy is a government program to limit the number of births that are given free of charge to women of reproductive age. This is because tubectomy is considered the most effective method of limiting the number of children.

This study is in line with the results of research in Medan in 2012 which stated that there is no correlation between a mother's work and tubectomy contraception ( $p=0.103$ ) where respondents who do not work more choose tubectomy, as many as 54 respondents (62.8%) compared to 32 respondents (37.2%) who work (12). Similarly, research in 2016 (17) states that there is no correlation between employment and MOW with a  $p$  value = 0.761, and other research results in 2017 with a  $p$  value = 1,000 (15).

### **The Relationship between Parity and Tubectomy Age Less than 40 Years**

The results showed that as many as 62 acceptors (78.5%) were of high parity (children >2), who chose tubectomy aged <40 years. Meanwhile, in mothers with low parity as many as six acceptors (81.3%) chose tubectomy at the age of <40 years. Statistically, it was proven that there was no correlation between parity and tubectomy at the age of less than 40

years ( $p=0.553$ ). Tubectomy is not determined by how many children they have. It could be that the respondent's children are considered sufficient, lacking, or excessive, but the respondent chooses to have a tubectomy. It is similar to a study in Yogyakarta in 2017 which stated that there was a parity correlation with the choice of long-term contraceptive method ( $p=0.075$ ) (18).

The determinants of the selection of contraceptive methods include the desired number of families, motivation, lifestyle, age, frequency of intercourse, previous experience of contraception, and attitudes. Health factors include physical examination, pelvic examination, menstrual history, family history, losses, minor side effects, costs, health status, and potential complications (19).

The choice of a contraceptive method can be influenced by one's knowledge and husband's support (20). Several factors such as age, occupation, number of children, education, and the purpose of using contraceptives are not influencing factors in choosing MKJP and Non-MKJP contraception ( $p=>0.05$ ) (21).

### **The Relationship between Respondents' Knowledge with Tubectomy Under 40 Years of Age**

The results showed that as many as 65 acceptors (80.2%) had good knowledge, which is in choosing tubectomy aged <40 years, while for mothers who had sufficient knowledge, as many as 10 acceptors (71.4%) chose tubectomy aged <40 years. Statistically, it was proven that there was no correlation between the respondent's level of knowledge with tubectomy aged < 40 years ( $p=0.484$ ).

This research is in line with the research in Medan in 2012 which stated that there was no correlation between knowledge and tubectomy in women of childbearing age / *Wanita Usia Subur* (WUS) ( $p=0.397$ ) where respondents who had good knowledge mostly chose tubectomy by 50 respondents (58.1%) compared to respondents with less knowledge six people (7%) (12). The absence of a correlation between knowledge and tubectomy was also stated in another study conducted in South Palu District in 2017 (22).

### **The Relationship between Husband's Support and Tubectomy Under 40 Years Old**

The results showed that as many as 73 acceptors (78.5%) whose husbands supported choosing tubectomy aged <40 years. Meanwhile, for mothers whose husbands did not support as many as two acceptors (100%) chose tubectomy aged <40 years. Statistically, it was proven that there was no relationship between the husband's support and tubectomy at the age of less than 40 years ( $p=0.622$ ).

The husband's support did not correlate with tubectomy contraception chosen by family planning acceptors in Semarang Regency ( $p=0.641$ ) (23). This can happen because the selection of tubectomy is not only based on the husband's support but other reasons such as budget availability or the possibility of the mother's condition. Even though the husband supports it, if funds are limited or conditions do not allow it, then another more suitable contraceptive will be chosen.

The husband's form of support can make his partner feel loved, cared for, and valued. Husbands should be able to provide support and positive contributions to the health of their wives. This will generate motivation in choosing the tubectomy method.

## **CONCLUSIONS AND SUGGESTIONS**

### **Conclusion**

The percentage of women who had a tubectomy was in the age range of 35-39 years. The last education of the respondent and husband is high school with the number of parity and parturition, namely three children. The respondent's occupation is as a housewife and their husband as an employee/laborer. The most obtained information about the reasons for tubectomy were health factors and family factors/many children. There is no relationship between husband and wife's education, mother's occupation, parity, husband's knowledge, and support with wife's decision to perform tubectomy.

Almost all respondents stated that they were satisfied after having a tubectomy seen from several factors including the reasons underlying the desire for tubectomy, the amount

of support, the husband's attitude and role, support from the family, community, and role models as well as the ease of access to costs and places in obtaining tubectomy services.

### Suggestion

The results of this study can be used by family planning officers to always provide encouragement and direction for figures who are often considered role models such as cadres, RT/RW heads and Family Welfare Empowerment or *Pemberdayaan Kesejahteraan Keluarga* (PKK) leaders who can voluntarily participate in becoming active family planning acceptors, especially tubectomy contraceptive acceptors.

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