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Determinants of long-acting contraceptives use among reproductive-age couples in Tanjung Karang Public Health Centre Mataram City, West Nusa Tenggara

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ABSTRACT

Background and purpose: The national family planning program prioritises the use of long-acting contraceptives which include intrauterine devices (IUD), tubectomy, vasectomy, and implant. However, the coverage of long-acting contraceptives in Indonesia remains low. This study aims to identify the determinants of long-acting contraceptives uptake among reproductive-age couples in Tanjung Karang Public Health Centre (PHC) Mataram City.

Methods: A cross-sectional study was conducted involving 169 reproductive age couples in Tanjung Karang PHC in 2016. Samples were selected from six sub-villages (*dusun*) in two villages using systematic random sampling. We selected 85 samples from coastal and 84 samples from non-coastal areas. Data on sociodemographic characteristics, perception, husband support, access to service, and information regarding long-acting contraceptives were collected through home interview. Analysis with logistic regression was applied to determine the factors influencing long-acting contraceptives uptake.

Results: The majority of respondents aged 20–35 years-old, and most of them have a lower level of education and knowledge regarding long-acting contraceptives. Among all current users, as many as 37.0% use long-acting contraceptive methods. The respondents refused to use long-acting contraceptives due to prohibited by the husband (92.8%) and desire to have more children (38.7%). Multivariate analysis using logistic regression showed that the uptake of long-acting contraceptives was significantly associated with area of residence (non-coastal) with an adjusted odds ratio (AOR)=2.89 (95%CI; 1.39-6.01), employment status with AOR=0.40 (95%CI; 0.18-0.90), income at minimum wages and above with AOR=2.47 (95%CI; 1.16-5.26), and husband support with AOR=2.19 (95%CI; 1.18-3.41).

Conclusions: The use of long-acting contraceptives are associated with husband support, living in non-coastal areas, and having a higher-income. Ongoing support from the husband, especially among those who live in coastal areas and from the lower socioeconomic background, is required to improve the coverage of long-acting contraceptives.

Keywords: Long-acting contraceptives, determinants, husband support, Mataram.

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INTRODUCTION

Based on the 2010 census, the total population of Indonesia was 237.6 million with an average population growth of 1.49%.[1] The national government promotes access to quality family planning programs especially long-acting contraceptives which include IUD, tubectomy, vasectomy, and implant to reduce population growth.[2]

The current use of long-acting contraceptives in Indonesia remains low. In West Nusa Tenggara, the uptake of long-acting contraceptives among reproductive-age couples is only 10.6%,[3] and the proportion of long-acting contraceptives among current users is 19.2%.[3] The coverage of long-acting contraceptives in Mataram City, the capital of West Nusa Tenggara Province, is lower compared to other districts across West Nusa Tenggara, especially in coastal areas.[4] Reports from 11 public health centres (PHCs) in Mataram City in 2015 revealed that the prevalence of long-acting contraceptives in Tanjung Karang PHC was lower than other PHCs. The current users of long-acting contraceptives were 17,643 (32.9%), while 35,992 (67.1%) used short-term contraceptives.[5] Tanjung Karang PHC serves both coastal and non-coastal areas. The prevalence of long-acting contraceptives is assumed to be lower in coastal areas.

Studies on determinants of long-acting contraceptives uptake in Indonesia and other countries show varied results. The association between several sociodemographic factors and the use of long-acting contraceptives is still inconsistent regarding age,[6,7] occupation,[8,9] income,[10,11] and level of knowledge.[10,12] However, studies have found a consistent association between the use of

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long-acting contraceptives with education (above junior high)[10,13] and low parity.[6,10] Other studies found that access to health facility influences the use of long-acting contraceptives.[11,14] In addition, studies have found that myths and misconceptions around long-acting contraceptives including the side effects reduce the overall uptake of long-acting contraceptives.[14,15] One study reported the relationship between the area of residence and the uptake of long-acting contraceptives.[3] Furthermore, studies reported inconsistent findings on the relationship between the uptake of long-acting contraceptives with husband support[11,15] and exposure to information regarding family planning program.[10,16] Studies in West Nusa Tenggara largely focus among younger married women and have found that the uptake of long-acting contraceptives is influenced by the level of knowledge, information from health providers, and husband support.[17] Our study aims to compare the use of long-acting contraceptives in coastal and non-coastal areas and to examine determinants of long-acting contraceptives uptake among reproductive-age couples in Mataram City.

METHODS

A cross-sectional study was conducted in Tanjung Karang PHC in Mataram City, West Nusa Tenggara. There are six villages under the jurisdiction of Tanjung Karang PHC. Four villages are located in coastal areas while the other two are non-coastal areas. One village was selected from the coastal and non-coastal areas. Three sub-villages (*dusun*) were randomly selected from each village. A total of 169 samples were recruited through systematic random sampling consisted of 85 samples from coastal and 84 samples from non-coastal areas. Our sampling frame involved of 1,400 reproductive-age couples. This sampling frame was developed based on the reproductive-age couple register of six sub-villages (*dusun*) provided by family planning cadres.

Our respondents were married reproductive aged women who ever used or currently using a contraceptive. Data were collected from June to July 2017 through home interviews. PRECEDE-PROCEED and Health Belief Model were employed in developing a framework to identify determinants associated with the uptake of long-acting contraceptives. The study variables were age, education, occupation, income, knowledge about long-acting contraceptives, perception, parity, the area of residence, access to service, exposure to family planning information, and husband support. Age was categorized into healthy reproductive age (20-35 years-old) and at-risk group (<20 and >35 years-old). Family income was classified into two categories based on the 2016 minimum wages for Mataram City (IDR 1,714,216). Knowledge about long-acting contraceptives was assessed using 17 questions which included types, application, benefits, and side effects. Every correct answer was scored one, and zero for an incorrect answer. Level of knowledge was classified into good and poor using the cut-off 50%. The perceived susceptibility was assessed using a question about the risk of multiple pregnancies (>5) if not using long-acting contraceptives with three options/responses which the respondent can choose. The perceived susceptibility was classified into high (score≥ 2) and low (score=1). Perceived severity was assessed using three questions about the impacts if the mother does not use long-acting contraceptives. Perceived severity was classified into high (score>3) and low (score≤3). Perceived benefit was assessed using four questions regarding the positive impacts of using long-acting contraceptives. Perceived benefit was classified into high (score>4) and low (score≤4). Perceived barrier included prohibition from husband to use long-acting contraceptives as well as reluctant to use long-acting contraceptives due to fear of side effects and application methods. Husband support was measured using four questions which included permission to use long-acting contraceptives; husband accompanied the wife to the health service; husband provided information regarding long-acting contraceptives; and husband participation in long-acting contraceptives (vasectomy). Husband support was classified into strong (≥3) and weak (≤2). Exposure to information regarding family planning from health providers was classified into ever and never received.

Data were analysed using STATA SE 12.1. Logistic regression was used to identify determinants of long-acting contraceptives uptake. The study protocol has been approved by the Human Research Ethics Committee Faculty of Medicine Mataram University on 4th April 2017.

RESULTS

All participants agreed to participate in our study, and we interviewed 169 respondents at their house. Table 1 presents the characteristics of our respondents. Reproductive age couples who never used contraceptives were excluded. The majority of respondents were current users (92.9%) while the rest were ever users (7.1%). Furthermore, the majority of respondents aged 20-35 years-old, unemployed, with low education level (junior high

Table 1 Contraceptives use and sociodemographic characteristics among ever and current contraceptive users by the area of residence

	Area of residence				Total	
	Non-coastal		Coastal			
Variables	**n**	**%**	**n**	**%**	**n**	**%**
Contraceptives use						
Current user	82	97.61	75	88.23	157	92.90
Ever user	2	2.39	10	11.77	12	7.10
Age						
<20 years	-	0.00	1	1.17	1	0.59
20-35 years	60	71.42	51	60.00	111	65.68
>35 years	24	28.58	33	38.83	57	33.72
Employment status						
Employed	36	42.85	28	32.95	64	37.87
Unemployed	48	57.15	57	67.05	105	62.13
Education						
Above junior high school	28	33.33	21	24.71	49	29.00
Junior high school and below	56	66.64	64	75.29	120	71.00
Income						
At minimum wages and above	33	39.29	30	35.30	63	37.28
Below minimum wages	51	60.71	55	64.70	106	62.72
Parity						
≤2	40	47.62	25	29.42	65	38.47
>2	44	52.38	60	70.58	104	61.53
Knowledge						
Good	60	71.43	30	35.30	90	53.25
Poor	24	28.57	55	64.70	79	46.75
Total	84	100.00	85	100.00	169	100.00

Table 2 A contraceptive mix between coastal and non-coastal areas (current users)

	Area of residence				Total	
	Non-coastal		Coastal			
Contraceptive mix	**n**	**%**	**n**	**%**	**n**	**%**
Short-acting contraceptives						
Injection	39	47.57	44	58.67	83	52.87
Condom	3	3.66	1	1.33	4	2.54
Pill	3	3.66	9	12.00	12	7.65
Long-acting contraceptives						
IUD	13	15.85	7	9.33	20	12.73
Implant	19	23.17	13	17.34	32	20.39
Tubectomy	5	6.09	1	1.33	6	3.82
Vasectomy	-	-	-	-	-	-
Total	82	100.00	75	100.00	157	100.00

Table 3 **Association of some variables with the uptake of long-acting contraceptives (ever and current users)**

	Long-acting contraceptives		Short-acting contraceptives				
Variables	**n**	**%**	**n**	**%**	**p value**	**AOR**	**95%CI**
Area of residence							
Non-coastal	37	44.05	47	55.95	0.008	2.89	1.39-6.01
Coastal	21	24.71	64	75.29			
Age							
<20 years	0	0.00	1	100.00			
20-35 years	36	32.53	75	67.57	0.468		
>35 years	22	38.60	35	61.40			
Employment status							
Employed	18	28.13	46	71.88	0.185	0.40	0.18-0.90
Unemployed	40	38.10	65	61.90			
Education level							
Above junior high school	15	30.61	34	69.39	0.516		
Junior high school and below	43	35.83	77	64.17			
Income							
At minimum wages and above	28	44.44	35	55.56	0.032	2.47	1.16-5.26
Below minimum wages	30	28.30	76	71.70			
Parity							
≤2	16	24.62	49	75.38	0.035		
>2	42	40.38	62	59.62			
Knowledge							
Good	34	44.74	42	55.26	0.009		
Poor	24	25.81	69	74.19			
Perceived severity							
High	30	36.14	53	63.86	0.623		
Low	28	32.56	58	67.44			
Perceived benefit							
High	41	37.96	67	62.04	0.184		
Low	17	27.87	44	72.13			
Perceived susceptibility							
High	46	35.11	85	64.89	0.686		
Low	12	31.58	26	68.42			
Exposure to information on family planning							
Yes	49	35.25	90	64.75	0.582		
No	9	30.00	21	70.00			
Access to service							
≤1 km	48	33.57	95	66.43	0.628		
>1 km	10	38.46	16	61.54			
Husband support							
High	39	52.70	35	47.30	0.000	2.19	1.18-3.41
Low	19	20.00	76	80.00			
Total	58	34.52	111	65.68			

school or below), earn less than the minimum wages for Mataram City, with parity more than two, and with good knowledge regarding family planning and contraceptives.

Based on area of residence, the use of contraceptives in the coastal was lower than in non-coastal areas. Also, respondents in coastal areas were relatively older and unemployed; had higher parity, lower income and education, and lower knowledge regarding contraceptives when compared to those who live in non-coastal areas.

Table 2 shows the pattern of contraceptives use among current users. Out of 157 respondents who are currently using contraceptives, as many as 63.0% use short-term contraceptives while 37.0% use long-term contraceptives. Furthermore, the use of long-acting contraceptives was higher in non-coastal (45.1%) than coastal areas (28.0%). Vasectomy uptake was 0%. The main reasons for refusing to use long-acting contraceptives were husband prohibition (92.8%) and desire to have more children (38.7%).

Table 3 shows the association between the uptake of long-acting contraceptives with predisposing, enabling, and reinforcing factors. All variables with a p-value <0.25 in the bivariate analysis were included in the multivariate analysis. These variables were area of residence (p<0.008), employment status (p<0.185), family income (p<0.032), knowledge (p<0.009), parity (p<0.035), perceived benefit (p<0.184), and husband support (p<0.000).

The multivariate analysis using logistic regression revealed that the uptake of long-acting contraceptives was associated with area of residence (non-coastal areas) with AOR=2.89 (95%CI: 1.39-6.01); family income at the minimum wages (IDR 1,714,000,-) and above with AOR=2.47 (95%CI: 1.16-5.26), husband support with AOR=2.19 (95%CI: 1.18-3.41), and employment status with AOR=0.40 (95%CI: 0.18-0.90).

DISCUSSION

This study found that the proportion of long-acting contraceptives was 36.9% among all ever and current contraceptives users. This proportion is higher when compared to the provincial data of West Nusa Tenggara (19.2%) and the national data (18.3%).[3] The high proportion in our study might be influenced by our sampling strategy. Our samples were selected from the register provided by family planning cadres. Our study also found that the proportion of long-acting contraceptive uptake among current users in non-coastal areas (45.1%) is higher than in coastal areas (28.0%). There is limited published literature that examines the uptake of long-acting contraceptives in coastal or non-coastal areas. The majority of existing studies classify the area of residence based on urban or rural areas. The National Demographic and Health Survey in 2012 found that the proportion of long-acting contraceptives uptake was higher in urban than in rural areas.[3] The high proportion of long-acting contraceptive uptake in non-coastal areas might be associated with some socio-economic characteristics of those who live in non-coastal areas: higher education level (33.3% vs. 24.7%), a higher level of knowledge (71.4% vs. 35.3%), and higher income (39.3% vs. 35.3%).

The present study found that the main barrier to the uptake of IUD and implant was the lack of support from husband. Studies in several cities in Central and West Java found a positive association between husband support and the uptake of long-acting contraceptives.[8,10,18] Furthermore, studies in Ethiopia also found that conducive discussion between husband and wife was associated with the uptake of long-acting contraceptives.[7,19] A study in Central Java documented several barriers to the uptake of long-acting contraceptives which included: fear of side effects or application methods, feeling ashamed as this relates to intimate organs, and availability of services.[14] Moreover, studies in Uganda and Ethiopia show that perceived barriers might reduce the uptake of long-acting contraceptive among women.[20,21]

Our study found that employed respondents were less likely to use long-acting contraceptives with AOR=0.40 (95%CI: 0.18-0.90). This finding is consistent with a study in Bogor District West Java which found lower uptake of long-acting contraceptives among employed women (36.9%) when compared to unemployed women (47.5%) though statistically was not significant (p=0.184).[9] However, a case-control study in Pamulang PHC South Tangerang found that employed respondents were more likely to use long-acting contraceptives with OR=4.737 (95%CI: 2.10-10.69).[8] Similarly, a cross-sectional study in Kalirejo PHC Negeri Katon Subdistrict, Pesawaran District, Lampung Province found that the use of long-acting contraceptives among employed respondents (47.4%) was significantly higher than unemployed respondents (7.4%) (p=0.000).[22]

Our study shows that respondents with high family incomes were more likely to use long-acting contraceptives compared to those with low family income with AOR=2.47 (95%CI: 1.16-5.26). A study in Banten Province also found that high-income respondents were more likely to use long-acting contraceptives with OR=2.21 (95%CI: 1.08-4.53).[8] In addition, a study in Banyubiru

Subdistrict, Semarang City Central Java found that the use of long-acting contraceptive among low-income families (7.7%) was significantly lower than wealthy families (37.4%) (p=0.034).[10]

This study covered only limited areas, and our findings cannot be generalised into wider areas. Only samples from reproductive age couples register that generated by family planning cadres were included, leading to a high proportion of long-acting contraceptives. Therefore, our finding should be interpreted with cautions especially when compared with other studies. Further studies to explore the association between husband support and the uptake of long-acting contraceptives are recommended.

CONCLUSION

The use of long-acting contraceptives in coastal is lower than in non-coastal areas. The use of long-acting contraceptives is associated with the area of residence (coastal and non-coastal areas), husband support, employment status, and family income. Providing couple education and counselling is an option to improve the uptake of long-acting contraceptives.

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