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Factors Affecting the Use of Contraceptive in Indonesia: Analysis from the National Socioeconomic Survey (Susenas)

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Article Info

Abstract

Rapid population growth has become a major concern and attention of many national governments and international community. Most developing countries have acknowledged the role of family planning as an effective way to improve maternal/child health and suppress population growth. This study aimed to investigate the socioeconomic and demographic factors that influence the use of contraceptives in Indonesia. This was a cross-sectional study using secondary data derived from National Socio-Economic Survey (SUSENAS) in 2014. A sample of 286,695 married women was selected for this study. Multiple logistic regression analyses were used to estimate the effects of socio-economic and demographic variables on contraceptive use. Only 42% of married women in Indonesia used contraceptive method. The most popular contraceptive method was injection (55%). Factors affecting contraceptive use were maternal age of 30-34 year, living in the urban area, family wealth status in the 4th quintile, secondary school, working women, residing in Java/Bali, and the number of living children > 2. Family planning policy information, education, and communication program should consider these determinants of contraceptive use.

Introduction

Sustainable population growth is an important problem for developing countries (Earsido et al., 2015). To overcome this, the government developed policies to limit population growth. Family planning is a tool to control population growth (Mekonnen and Worku, 2011). Family planning is important as an efforts to reduce poverty, increasing economic growth, increasing women's productivity, reduce fertility, and improve the survival of children and mothers health. Family Planning can prevent maternal mortality up to 20-35% (Gudaynhe et al., 2015).

Contraceptive use is considered as an important control measure of fertility (Asiimwe et al., 2013; Johnson, 2017). Contraceptive use is an effort to control population growth. The benefits of contraception can be divided into micro and macro levels. At the micro level, contraception is a measure to control the number of births and number of family members. Some forms of contraception also provide protection against sexually transmitted diseases (STDs). At the macro level, the benefit of contraception is limitation of population growth which results in reduction of burden in the national burden (Nonvignon and Novignon, 2014). Contraception should be given before menstruation returns in order to avoid pregnancy (Mindarsih et al., 2018)

Several factors have been identified to be

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associated to the use of family planning method or contraceptives. These factors are social factors which includes economy, culture, and religion. The study by Kimani found that socio-economic variables, including education and wealth, were significant determinant of contraceptive use in Kenya. They also found that contraceptive use increased with less culture conservatism and the environment (Kimani et al., 2013). This study aimed to examine the social, economic, and demographic factors that influence the use of contraceptives in Indonesia.

The analysis was based on data from the National Social Economic Survey (*Susenas*) of 2014. Samples were collected from 286,695 married females. The National Social Economic Survey is a survey on consumption and expenditure at the household level. The *Susenas* survey has been conducted annually since 1963. It is aimed to collect a wide variety of social and demographic data, including those on education, health/nutrition, housing, other socio-economic aspects, social and cultural activities, consumption/expenditure and wealth status of the household level, travel and community perspectives on household welfare.

Susenas is divided into two types: a) Core *Susenas*, which is held annually, and b) Module *Susenas*, which is held once in three years. Core *Susenas* collects general data while Module *Susenas* collects more specific data. Core data are collected annually through core questionnaires while module data are collected through specific questionnaires and more detailed questions once every three years for every topic. The advantage of using *Susenas* data is that the survey covers very large samples from all provinces in Indonesia. The *Susenas* is designed to collect relatively extensive social and demographic data on an annual basis.

Method

This study used a cross-sectional design. The data were analyzed using univariate, bivariate, and multivariate analysis approaches. Univariate descriptive analysis was used to examine the distribution of the variable frequency. Bivariate analysis was used to identify the relationship between the independent variables and the use of contraceptives. The significant difference was established using chi-square $p<0.05$. Logistic regression was used to examine the influence of the social, economic, and demographic factors on the use of contraceptives in Indonesia where the dependent variable was binary.

The dependent variable in the study was the use of contraceptives, which was collected from the question of whether female respondents were currently using contraceptives or not. If a female respondent reported that she was using a contraceptive method, it was coded as "1" and "0" for otherwise. Independent variables were selected to be used in the analysis based on the previous study that examined the association of the social, economic, and demographic factors in the use of contraceptives. The independent variables were maternal age, number of living children, level of wealth status, the status of residence, the status of the region, level of education, and work status.

Results and Discussion

Characteristic of Respondent

Table 1 presents the statistical summary of the samples used in the study. A total of 41.82% of respondents used contraceptives, with the majority using injection method (55%). The majority of the respondents underwent primary education only (52.72%), lived in rural areas (55.73%), and lived in Java/Bali (35.32%) and the eastern part of Indonesia (35.33%).

Bivariate Analysis

Table 2 shows the statistical summary of the bivariate analysis. The use of contraceptives among married females increased when they were 35-39 year old and declined in age group >40. The low prevalence of contraceptives use among women aged <30 may be explained because most of them are newly married, and marriage is seen as a way to produce offspring. Newly married women might also have problems with accessing family planning services. The declining use of contraceptives among older women may be since they have reduced sexual activities. The use of contraceptives among married women increased with the women's level of education. The majority of contraceptives users were found in Java and Bali. This might be caused by better access to contraceptives in Java and Bali compared to other regions.

Table 1. Characteristics of Respondents

Characteristics	Total (N, %)
Total of respondent	286,695
Use contraceptive	
Yes	119,886(41.82%)
No	166,809(58.18%)
Age (year)	
<30	53,554(18.68%)
30-34	40,591(14.16%
35-39	40,482(14.12%)
40-44	38,371(13.38%)
45-49	32,191(11.23%)
>49	81,506(28.43%)
Level of wealth status (per capita expenditure)	
First quintile	60,092(20.96%)
Second quintile	56,846(19.83%)
Third quintile	56,217(19.61%)
Fourth quintile	56,236(19.62%)
Fifth quintile	57,304(19.99)
Work status	
Work	163,592(57.06%)
No work	123,103(42.94%)
Number of living children	
>2	131,659(45.92%)
1-2	155,036(54.08%)
Level of education	
Primary	151,134(52.72%)
Secondary	111,720(38.97%)
Tertiary	23,841(8.32 %)
Status of area	
Urban	126,931(44.27 %)
Rural	159,764(55.73 %)
Region	
Sumatera	84,149(29.35%)
Java-Bali	101,260(35.32%)
Eastern Indonesia	101,286(35.33%)

Source: 2014 National Socio-economic Survey *(SUSENAS)*

Table 2. Bivariate analysis between contraceptive use and independent variable

Variables		Contraceptive use				OR (CI 95%)
		Yes		No		
		n	%	n	%	
Age (year)	<30	30,726	57.37	22,828	42.63	0.61(0.60- 0.61)***
	30-34	25,470	62.75	15,121	37.25	
	35-39	25,538	63.08	14,944	36.92	
	40-44	21,400	55.77	16,971	44.23	
	45-49	11,841	36.78	20,350	63.22	
	>49	4,911	6.03	76,595	93.97	
Level of wealth status	First quintile	21,552	35.87	38,540	64.13	1.04(1.03- 1.05)***
	Second quintile	25,000	43.98	31,846	56.02	
	Third quintile	25,019	44.50	31,198	55.50	
	Fourth quintile	24,862	44.21	31,374	55.79	
	Fifth quintile	23,453	40.93	33,851	59.07	
Work status	Work	67,988	41.56	95,604	58.44	0.86(0.84- 0.87)**
	No work	51,898	42.16	71,205	57.84	
Number of living children	>2	46,234	35.12	85,425	64.88	0.59(0.58-0.60)***
	1-2	73,652	47.51	81,384	52.49	
Level of education	Primary	53,048	35.10	98,086	64.90	1.42(1.41-1.44)***
	Secondary	56,706	50.76	55,014	49.24	
	Tertiary	10,132	42.50	13,709	57.50	
Status of area	Urban	50,540	39.82	76,391	60.18	0.86(0.84-0.87)***
	Rural	69,346	43.41	90,418	56.59	
Region	Sumatera	34,320	40.78	49,829	59.22	0.98(0.97-0.99)***
	Java-Bali	44,914	44.36	56,346	55.64	
	Eastern Indonesia	40,652	40.14	60,634	59.86	

Source: 2014 National Socio-economic Survey (SUSENAS),
Key: ***significant at 1% level; **5% level; *10% level

Multivariate Analysis

All variables that were found to be statistically significant in the bivariate analysis were used to establish the determinant factors in the use of contraceptives among women using multivariate logistic regression analysis. The analysis was carried out using logistic regression model to calculate the odds ratio and p-value. The variables that were found to be statistically significant in the use of contraceptives after keeping the other explanatory variables constant are presented in Table 2. The results of logistic regression analysis showed that the variables that explain most of the variations in the use of contraceptives in Indonesia were: age, the status of the region, level of wealth status, level of education, number of living children, and work status. The respondents' age is one

Table 3. Multivariate analysis

Variable	Category	OR	CI	p
Age (year)	<30 (ref)			0.000
	30-34	1.16	1.13-1.20	
	35-39	1.09	1.06-1.12	
	40-44	0.76	0.74-0.78	
	45-49	0.33	0.32-0.34	
	>49	0.03	0.03-0.03	
Level of wealth status	quintile 1 (ref)			0.000
	quintile 2	1.19	1.16-1.22	
	quintile 3	1.21	1.18-1.25	
	quintile 4	1.25	1.22-1.29	
	quintile 5	1.19	1.15- 1.22	
Work status	No work (ref)			0.000
	Work	0.95	0.94- 0.97	
Number of living children	1-2 (ref)			0.000
	>2	1.56	1.53-1.59	
Level of education	Primary (ref)			0.000
	Secondary	1.06	1.04-1.08	
	Tertiary	0.86	0.83-0.89	
Status of area	Rural (ref)			0.000
	Urban	0.82	0.81- 0.84	
Region	Eastern Indonesia (ref)			0.000
	Java-Bali	1.68	1.64- 1.72	
	Sumatera	1.11	1.09- 1.14	

Source: 2014 National Socio-economic Survey *(SUSENAS)*

of the variables that influence the current use of contraceptives in Indonesia. Women in the age group 30-34 were 1.16 times more likely to use contraceptives than women in age group <30 while women in the age group 35-39 were 1.09 times more likely to use contraceptives than women in age group <30. The decrease in odds ratio with the increase of the respondent's age may reflect a decline in the use of contraceptives among older women.

Indonesian women living in urban areas were 0.82 times more likely to use contraceptives than those living in rural settings. The results of the analysis showed that the level of education among women is one of the predictors in the use of contraceptives in Indonesia. Women with secondary education are 1.06 times more likely to use contraceptives than those with a low level of education. The analysis also shows that the number of living children also influences the use of contraceptives. Women with >2 children were 1.56 times more likely to use contraceptives than those with 1 to 2 children. The work status also influences the use of contraceptives in Indonesia. Working women were 0.95 times more likely to use contraceptives than those who were not working. Women who live in urban areas were 0.82 times more likely to use contraceptives than women who live in rural areas. Women who live in Java-Bali region were

1.68 times more likely to use contraceptives compared to the women in the eastern part of Indonesia. Women who were at the 4th quintile in terms of wealth are 1.25 times more likely to use contraceptives than women who were at the 1st quintile.

The study aimed to examine the social, economic, and demographic factors that are associated with the use of contraceptives in Indonesia. The results of the analysis indicate that all variables used in the study have a significant influence on the use of contraceptives. Some studies have indicated the positive correlation between the use of contraceptives and level of education (Larsson and Stanfors, 2014, Kimani et al., 2013, Nonvignon and Novignon, 2014, Asiimwe et al., 2013, Jalang'o et al., 2017, Rutaremwa et al., 2015). This is indicative that the higher the level of education among women, the higher the use of contraceptives. Use of contraceptives is also higher in urban areas than in rural areas. Survey held in some countries by reported that contraceptive use was higher among women from the urban than rural areas. (Nonvignon and Novignon, 2014, Johnson, 2017, Pandey and Singh, 2015, Unumeri et al., 2015). This may have been the result of different availability of social services, including information related to methods of contraceptives, access to contraceptives, and the needed health care services. Kimani et al. mentioned that ignorance regarding family planning methods and peculiar cultural factors might pose limitations to the use of contraceptives in rural areas (Kimani et al., 2013)

Age has a significant correlation with contraceptive use. Previous studies have demonstrated a significant relationship between age and contraceptive use (Ndugwa et al., 2011; Elfstrom and Stephenson, 2012; Rutaremwa et al., 2015). The work status of women has also been linked with the use of contraceptives. Women's employment status significantly predicted uptake contraceptive. Women who were in employment were more likely to use contraceptives. The previous study has mentioned that there is a relationship between contraceptive and employment. (Jalang'o et al., 2017, Pasha et al., 2015, Rutaremwa et al., 2015)

Wealth status has a significant relationship with contraceptive use. The results indicated a direct relationship between women's wealth status and contraceptive use. Women from wealthier households are more likely to use contraceptive compared to those in the poorest households. Several studies have found the same result (Adebowale et al., 2014; Rutaremwa et al., 2015; Johnson, 2017; Anasel and Mlinga, 2014; Abraha et al., 2018). The number of living children has a significant correlation with the contraceptive. The previous study has explored that a higher number of living children were more likely to use contraceptive (Rutaremwa et al., 2015, Unumeri et al., 2015)

The limitation of this study was that there were some variables which had not been examined in this study due to lack of coverage of these variables in this survey like knowledge of women, exposure to media, husband's approval which is very important in the decision concerning the use of contraceptives. Despite such limitation, it is hoped that this study will provide information concerning the factors associated with the use of contraceptives in Indonesia.

Most developing countries have recognized family planning as an effective way to improve maternal and child health. It also has major role in mortality and transitional fertility. Family planning also influences women's empowerment. To improve the coverage of the use of contraceptives, it is necessary to identify the determinants of the use of contraceptives. To explain these differences, this paper aims at examining the relationship between the chosen social and economic variables and the use of contraceptives among married women in Indonesia. The results of multivariate analysis indicated that age, economic well-being, level of education, number of living children, and region of residence are the most important explanatory variables of the current use of contraceptives in Indonesia. These factors should be taken into account in the re-design of the national family planning programs in Indonesia. The government should improve and intensify further provision of information, educational, and communication programs concerning the use of contraceptives.

Conclusions

Factors affecting contraceptive use

were maternal age of 30-34 year, living in the urban area, family wealth status in quintile 4, secondary school, work, residing in Java/Bali, the number of living children > 2. Family planning policy information, education, and communication program should consider these determinants of contraceptive use.

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