

Factors Associated with the Use of Contraception among Women Age 15-24 Years in Indonesia

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ABSTRACT

Contraception use among women younger than 24 years old remains deficient in Indonesia. This study analyzes factors associated with the use of contraception in women of 15-24 years old in Indonesia. This study examined data were extracted from the 2017 Indonesian Demographic and Health Survey. A cross-sectional design was used as an approach to analyze data of 3,876 married women in their 15-24 years of age and their use of contraception. Chi-square test and binary logistic regression were employed to evaluate the predictors of contraceptive use. Our investigation found that the use of contraception at the time of the survey was 57.5%. The findings in this study indicate that mother's age 15-19 years [AOR = 1.58; 95% CI = 1.10-2.26], higher education mother [AOR=5.37; 95% CI = 1.84-15.65], number of children more than three [AOR = 25.58; 95% CI = 11.19-58.47], and territory in western Indonesia [AOR = 2.78; 95% CI = 1.91-4.05] are significantly correlated with contraceptive use among the women. Thus, this suggests that the use of contraception

among women aged 15-24 years in Indonesia is related to age, education, number of children in the family, and region of residence. This study recommends that a multisectoral approach is needed to solve this problem by taking into account uneducated women who live in central and eastern Indonesia. The need for more comprehensive education related to the use of contraception for pregnancy planning and the number of children by involving the husband as a decision-maker in the family.

Keywords: contraception, Demographic and Health Survey (DHS), determinants, women

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INTRODUCTION

The use of contraception has been a possible key to postpone pregnancy and to reduce maternal mortality rate due to childbirth at a young age, which is about ≤ 24 years (1). Previous studies in the Philippines and Ethiopia revealed that by knowing several characteristics, such as age, marital status, level of education, residence area, welfare index, religion, occupation, number of children, intention to have more children, knowledge of fertility period, and sources of information on contraceptive, users could help to direct policy making to produce more effective contraception regulation including encouraging the transition of using contraceptive into modern methods which are known to be more effective (2,3). Furthermore, recent studies from Indonesia found that individual factors, wealth index and access to information related to the use of contraceptive among Indonesian women aged 15-49 years old (4).

As being pregnant at the age of younger than 24 years old could increase the risk of mortality for mothers and children, several developing countries, such as in South America and the Caribbean, have made interventions to advocate for increased use of contraception in married women in their teens (5). However, in Indonesia, the effort to implement similar regulation does not yet exist, and the tendency to provide the contraceptive demands in married women under the age of 24 years still needs to be realized. Considering 4T jargon (too young, too many children, too close birth spacing, and too old) as a contributor to the high maternal and child mortality rates in Indonesia, it has been proven in this study that there is still a plethora of women aged 15-24 who do not use contraception, thereby increasing the risk of miscarriage, premature labor, low baby weight, congenital abnormalities and mother mortality (6). This has encouraged researchers to recommend a campaign

to use contraception for married women younger than 24 years old. However, there is a paucity of studies to inform the determinants of contraceptive use in Indonesia, particularly among women of the age group.

That contraceptive use is a key to reduce the speed of population growth and negative impacts on economy, the environment, and national stability, an earlier study in Ghana identified that region of residence and level of education were strong predictors for contraceptive use (7). Another study in Ghana and Sub-Saharan Africa added that age, employment, sexual health understanding, marital status, number of children, welfare index, partner approval and support, and religious beliefs were among the determinants of modern contraception use (8-10). One study found that, in Ethiopia, partner (husband) opposition (38.8%), religious belief (17.7%), anxiety and concern toward the adverse reactions (14.8%), and geographical barriers to access health services (5.9%) have hindered married couples from using recommended contraceptions (11).

The degree of contraceptive use in Indonesia has a variety of data in several provinces, from the lowest in Papua province (25.73%) to the highest in Bengkulu province (71.15%) (12). The significance of the difference in contraception use underlies the importance of this study, particularly to identify the determinants that might contribute to the use in married women between 15-24 years of age.

METHODS

Data

The data used were secondary data sourced from the 2017's Indonesian Demographic and Health Survey (IDHS). The IDHS is one of the population social surveys regularly conducted by the Bureau of Central Statistics, the

Department of National Population and Family Planning, and the Ministry of Health of the Republic of Indonesia. The data were gained from 14,766 women aged 15-24 who were eligible for interviews. Only data that contained married women aged 15-24 years old were included in this study for analysis. This was due to low level of contraceptive use within the age range. In total, this study involved data from 3,876 women under the inclusion criteria.

The ethical clearance of 2017 IDHS was obtained from the National Health Research and Development Agency (NIHR), Indonesian Ministry of Health. All respondent's identities have been deleted from the data. In addition, all respondents gave written informed consent signed and kept under the management of the Ministry of Health. Permission to use the data in this study was obtained from the Inner City Fund International (ICF), as the beholder of Demographic Health Survey (DHS) program.

MEASURES

Sociodemographic factors (age, education, and occupation) were asked of respondents. As related to education this was the mother's last education and for husband factors, husband/wife's age difference, education, and occupation were enquired. The household factors (number of children and welfare index) were the number of living children still alive when using family planning and the welfare index was about asset ownership up to a bank account. For the accessibility factor, access to health facilities, access to newspaper/magazine information, radio access, television access, and internet access were asked, particularly whether there were obstacles in accessing health facilities or not, and geographic factors (place of residence and region) focused on a province respondent's place of residence during the survey.

Analysis

A bivariate analysis using the Chi-square test was employed and followed by a multivariate binary logistic regression test. The variables were significant at p-values of <0.05.

RESULTS

Table 1 showed that 42.5% of 3876 women aged 15-24 did not use contraception. Almost all respondents in the survey were aged 20-24 (83.04%) years and a small proportion of respondents were aged 15-19 years. Most of the respondents' educational backgrounds were junior school (72.79%), while the rest were lower education and higher formal education. Moreover, the fewest were uneducated respondents. Most respondents did not have occupation (54.42%), while other respondents worked or had an income. According to the husband factors, almost half of the respondents (40.95%) had an older husband with a difference in age between 0-4 years with the majority of respondents' husbands having secondary education (66.07%), and almost half of the husband's respondents had jobs as professionals (42.59%). The majority of respondents (71.79%) had one or two children, with the household welfare index almost evenly distributed for all respondents, with the most being 25.42% of respondents in the lower middle category. Accessibility to information obtained in the past six months regarding family planning was also asked of respondents. Most respondents accessed information through television information media, where almost all respondents (97.58%) had seen a program about family planning on television once a week or more. As for other information media, these were the internet (58.34%), radio (40.27%), and newspapers/magazines (36.72%). In regard to data for access to health services, from 3876 respondents, almost all respondents (87.88%) said they had easy to access health services and most respondents (59.07%) lived in rural areas. Almost all respondents (82.60%) lived in the eastern part of Indonesia, a small portion in the western part of Indonesia and the central part of Indonesia, respectively, as shown in Table 1.

Table 1: Characteristic demography of factors associated with the use of contraception among women age 15-24 years in Indonesia

Variable	n	%
Contraception use		
No	1647	42.50
Yes	2229	57.50
Mother's age		
15-19 Years	657	16.96
20-24 Years	3219	83.04
Mother's Education		
Uneducated	21	0.56
Primary School	757	19.55
Junior School	2821	72.79
High School	275	7.10
Mother's Occupation		
Unemployed	2109	54.42
Employee	1767	45.58
The difference age between wife and husband		
Wife more mature than husband	316	8.15

Husband more mature (0-4 years)	1587	40.95
Husband more mature (5-7 years)	965	24.90
Husband more mature (above 8 years)	1007	26.00
Husband's Education		
Uneducated	24	0.64
Primary School	998	25.76
Secondary School	2561	66.07
Higher School	291	7.53
Husband's occupation		
Professional	1635	42.59
Farmer	874	22.78
Industry	1329	34.63
The number of children		
None	1056	27.24
1-2 children	2783	71.79
More than 3 children	37	0.97
Welfare index		
Lowest	855	22.07
Low-Intermediate	985	25.42
Intermediate	917	23.67
Intermediate-high	729	18.83
Highest	388	10.02
Accessibility information to newspaper or magazine		
Never	2453	63.28
Once or more in weeks	1423	36.72
Accessibility of information to radio		
Never	2315	59.73
Once or more in weeks	1561	40.27
Accessibility of information to Television		
Never	93	2.42
Once or more in weeks	3783	97.58
Accessibility of information to the Internet		
Never	1615	41.66
Once or more in weeks	2261	58.34
Accessibility of information to health service		
Having predicament	469	12.12
Easily to access	3406	87.88
Residence area		
City	1586	40.93
Village	2289	59.07
Regional		
East Indonesia	3202	82.60
Central Indonesia	589	15.21
West Indonesia	85	2.19

The results of the bivariate analysis (see Table 2) show that 11 independent variables have significant values and there is a positive correlation with contraceptive use in women aged 15-24 years. These variables include mother's age, level of education, and occupation; husband's education and

occupation; number of children, family welfare index, access to newspaper or magazine information, access to internet information, and area of residence. Four other independent variables show no significant results.

Table 2: Chi-square test of factors associated with the use of contraception among women age 15-24 years in Indonesia

Variable	The use of contraception				X ²	p-value
	No		Yes			
	n	%	n	%		
Mother's age						
15-19 years	356	54.13	301	45.87	40.72	0.0000
20-24 years	1292	40.12	1927	59.88		
Mother's Education						

Uneducated	17	79.72	4	20.28	62.46	0.0000
Primary school	277	36.50	481	63.50		
Secondary school (Junior/high school)	1182	41.91	1639	58.09		
Higher education (diploma/bachelor/master/doctoral)	171	62.16	104	37.84		
Mother's Occupation						
Unemployed	766	36.32	63.68	34.65	67.08	0.0000
Employee	881	49.87	50.13	22.85		
The difference age between wife and husband						
Wife more mature than husband	161	50.90	155	49.10	9.87	0.0779
Husband more mature (0-4 years)	670	42.24	917	57.76		
Husband more mature (5-7 years)	406	42.10	559	57.90		
Husband more mature (above 8 years)	409	40.65	598	59.35		
Husband's education						
Uneducated	12	47.93	12	52.07	36.25	0.0000
Primary school	371	37.22	627	62.78		
Secondary school (Junior/high school)	1096	42.78	1466	57.22		
Higher education (diploma/bachelor/master/doctoral)	168	57.62	124	42.38		
Husband's occupation						
Professional	742	45.40	893	54.60	11.99	0.0211
Farmer	362	41.43	512	58.57		
Industry	517	38.92	812	61.08		
The number of children						
None	960	90.91	9.09	2.48	1294	0.0000
1-2 children	673	24.19	75.81	54.42		
More than 3 children	14	37.88	62.12	0.6		
Welfare index						
Lowest	348	40.66	507	59.34	37.31	0.0001
Intermediate- low	378	38.39	607	61.61		
Intermediate	363	39.60	554	60.40		
Intermediate- high	348	47.73	381	52.27		
Highest	210	53.96	178	46.04		
Accessibility information to newspaper or magazine						
Never	990	40.35	1463	59.65	11.69	0.0049
Once or more in a week	657	46.20	765	53.80		
Accessibility of information to radio						
Never	995	42.97	1320	57.03	0.47	0.5832
Once or more in a week	652	41.81	909	58.19		
Accessibility of information to television						
Never	50	53.93	43	46.07	4.76	0.0655
Once or more in a week	1597	42.22	2186	57.78		
Accessibility of information to the Internet						
Never	576	35.68	1039	64.32	48.91	0.0000
Once or more in weeks	1071	47.37	1190	52.63		
Accessibility of information to health service						
Having predicament	214	45.65	255	54.35	2.02	0.2765
Easily to access	1433	42.06	1974	57.94		
Residence area						
City	720	45.40	866	54.60	8.58	0.0200
Village	927	40.49	1363	59.51		
Regional						
East Indonesia	1344	41.97	1858	58.03	13.25	0.0017
Central Indonesia	250	42.51	339	57.49		
West Indonesia	53	62.49	32	37.51		

Women aged 15-19 years have an odds ratio of 1.58 times of using contraception compared to women of the older group. Those with higher levels of education have an odds ratio of 5.37 times of using contraception when compared with their lower counterparts. The number of children was also significantly correlated with contraceptive use in both studied groups. Women having more than three children

had an odds ratio of 25.58 times using contraception than women who did not have children. Women who lived in the western Indonesian provinces [AOR=2.78; 95% CI=1.91-4.05] were more likely to use contraception. Detail about binary logistic regression analysis with contraceptive use is presented in Table 3.

Table 3: Binary logistic regression of factors associated with the use of contraception among women age 15-24 years in Indonesia

Variable	AOR	95% CI	
		Lower	Upper
Mother's age			
15-19	1.58**	1.10	2.26
20-24	Ref		
Mother's Education			
Uneducated	Ref		
Primary school	5.98***	2.17	16.50
Secondary school (Junior/high school)	5.78***	2.11	15.87
Higher education (diploma/bachelor/master/doctoral)	5.37**	1.84	15.65
The number of children			
None	Ref		
1-2 children	36.78***	26.29	51.47
More than 3 children	25.58***	11.19	58.47
Regional			
East Indonesia	Ref		
Central Indonesia	2.14***	1.45	3.15
West Indonesia	2.78***	1.91	4.05

*p <0.05; **p <0.01; ***: p <0.001

DISCUSSION

Mother's demographics (age and level of education), number of children within the family, and area of residence were found as significant determinants of contraceptive use among women younger than 25 years old in Indonesia. This suggests that women who were younger than 20 years old were more likely to use contraception than their older counterparts. This supports earlier findings in North-South Kivu and Pakistan, suggesting that women aged 15-19 years old were sexually active and intended to delay pregnancy for two years (13,14). Contraceptive use among young women is regarded beneficial to unwanted pregnancies and unsafe abortions (15–17). Moreover, younger women prefer to use modern contraception for the pill and the injectable methods, because these have a minimum of trouble to use (18). Another study showed a contradictory result that the tendency of women aged ≥ 20 years to use contraception was higher when compared to younger age groups (19–21). This was likely related to their inferiority in household decision-making which influences their attitudes and knowledge (11,22). This study recommends the essential need of providing health promotion to young women in the safe use of contraception and preventing maternal mortality rate.

Higher education was associated with higher contraceptive use. These results have consonance to study conducted in Ghana that women having an education were seven times greater in using contraception than women who had not received formal education (10). This is also supported by

two previous studies that suggest the enormous influence of women's level of education on the use of modern contraception (7,21). Those who have higher education have the lowest proportion of unmet need for family planning (UMNFP), need for spacing, and need for limiting. These suggest that women who are well-educated have better access to family planning services, and are better positioned in the decision-making process regarding the use of contraception (13). Therefore, it is suggested that better accessibility to health should be encouraged for the lower-educated and that health professionals need to allow more discussion for them in order to gain better health and wellbeing.

Women living in families with more than three children have 25.58 times higher tendency to use contraception than those with lower number of children. This is in-line with a previous study conducted in Nepal, which found that women who have more children were more likely to use contraception (23). This suggests that the number of living children has significant influence to women's attitude toward the use of contraception (22,24,25) and indicates the use is also influenced by their perception as to ideal family size and intention to delay future pregnancies (19). It indicates that women with more children are more likely to control decisions and are more convinced about the benefits of contraceptive methods (13,26). Therefore, a policy perspective is needed to promote better family planning. Women who live in western areas of Indonesia have a higher tendency to use contraception than those in the

eastern regions that are more rural. This finding is similar to that of an earlier study in Ghana, which found that the use of contraception was lower in the countryside (26). In line with this, studies of several African countries also found that the region, residence, accessibility, facilities, and infrastructure of transportation impacted on contraceptive use (26–28). This is closely related to access to contraception and health facilities since the geographical structure in eastern Indonesia is quite difficult as it consists of islands and mountains, which affects health accessibility (29). Women with higher opportunities to meet health officers were more likely to use contraception than their lower counterparts. These results emphasize the need to increase opportunities for health workers to meet with groups of women targeted by family planning in Indonesia.

CONCLUSION

Age, level of education, number of children in the family, and geographical accessibility were significant determinants of contraceptive use in women younger than 25 years old in Indonesia. This study recommends that a multi-sectoral approach is needed to resolve this predicament concerning the characteristics of women aged 15-24 years, particularly to reach women with low levels of education. More comprehensive education related to the use of contraception for pregnancy planning and the number of children is needed.

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