

# Sociodemographic factors and current contraceptive use among ever-married women of reproductive age: Analysis of the 2017 Indonesia Demographic and Health Survey data

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## ABSTRACT

**Backgroundandpurpose:** Globally, the number of new contraceptive users in mid-2017 was only around half of the target. According to the results of the Indonesian Demographic and Health Survey (IDHS), the use of all methods of contraception in Indonesia has increased but is still lower than the target. This study aims to determine the factors associated with the use of contraception in Indonesia.

**Methods:** This study uses secondary data from the 2017 IDHS that was carried out in 34 provinces in Indonesia. The total sample was 35,681 of 49,627 women aged 15-49 years. The dependent variable was current contraceptive use. The independent variables consisted of socio-demographic and socio-economic factors, knowledge, discussion with husband, and access to health services. Data analysis was performed through a binary logistic regression test to obtain the adjusted odd ratio of each factor.

**Results:** The proportion of current contraceptive use was found to be 63.6% (95%CI: 63.2-64.0%). Factors related to current contraceptive use were family planning information from health workers (AOR=1.67;

95%CI: 1.59-1.77), maternal age of 35-44 years (AOR=1.54; 95%CI: 1.42-1.66), maternal age of 25-34 years (AOR=1.37; 95%CI: 1.27-1.48), maternal age  $\geq$ 45 years (AOR=0.75; 95%CI: 0.68-0.82), living in the Java-Bali region (AOR=1.28; 95%CI: 1.22-1.35), living in rural areas (AOR=1.07; 95%CI: 1.01-1.12), having more than two living children (AOR=1.52; 95%CI: 1.44-1.60), level of education not attending school until not graduating from high school (AOR=1.46; 95%CI: 1.35-1.59), high school graduation level (AOR=1.25; 95%CI: 1.16-1.35), not working status (AOR=1.08; 95%CI: 1.03-1.13), medium wealth index (AOR=1.07; 95%CI: 1.00-1.14) and good knowledge (AOR=1.17; 95%CI: 1.11-1.23).

**Conclusion:** The proportion of current contraceptive use in couples of childbearing age in Indonesia has not reached the government target. Factors that were more likely to increase current contraceptive use were family planning information from health workers, age, region, number of living children, mothers' education, and knowledge. The family planning program in Indonesia should therefore consider those factors to increase the current contraceptive use.

**Keywords:** contraception, family planning, factors, Indonesia

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## INTRODUCTION

Globally, Family Planning 2020 (FP 2020) sets a goal of 120 million new contraceptive users over eight years (between 2012-2020) or 15 million per year.<sup>1</sup> Thus, about 75 million new contraceptive users should be achieved by mid-2017, but so far reached only 38.8 million, or about 52% coverage.<sup>1</sup>

Use of all methods of contraception in the world in 2017 was reported at 63% with contraceptive use of above 70% found in Europe, Latin America and the Caribbean, and North America, while contraceptive use below 25 percent was found in Central and West Africa. The proportion of contraceptive use in Asia was 66.4% and in Southeast Asia 63.6%, and in Indonesia 61.6% - lower compared to Thailand (78.4%), Vietnam (76.7%), Singapore (66.3%).<sup>2</sup>

The Government of Indonesia has a commitment to guarantee family planning services for more than 30 million fertile age couples and ensure

accessibility to at least 2.8 million additional users.<sup>3</sup> The Indonesian government ensures the provision of contraceptive services through national health insurance schemes, increased mix of contraception methods, quality of service, contraceptive supply chain management, youth empowerment, and inter-sectoral cohesiveness at the central and regional levels.<sup>3</sup>

Based on the results of the Indonesian Demographic and Health Survey (IDHS), the use of contraception for all methods in Indonesia has increased from 61.9% in 2012 to 63.6% in 2017 but is still lower than the government target at the end of the 2015-2019 Government Planning or called *RPJMN (Rencana Pemerintah Jangka Menengah Nasional)* at 66%.<sup>4-6</sup>

Studies on factors related to the use of contraception has been widely carried out in various countries

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including Indonesia with inconsistent results. A study in Bangladesh shows that factors contributing to contraceptive use are age, family size, wealth index, mother's and husband's education, occupation, breastfeeding history, and childbirth in the past five years.<sup>7</sup> Whereas a study in Ghana found no significant association between contraceptive use and age, marital status, employment, number of living children, antenatal care visits, and family planning discussions at postnatal services.<sup>8</sup>

A study in Indonesia that used secondary data analysis of the 1997 and 2007 IDHS found that the most dominant factor related to current contraceptive use was the husband's view of family planning.<sup>9</sup> Within almost a decade there have been several changes in various aspects in Indonesia such as infrastructure, social, economic and health aspects, especially with the introduction of the National Health Insurance Program (JKN), where contraceptive services are also included.<sup>10,11</sup> There has not been any publication of factors related to the use of contraception using the 2017 IDHS data. Aim of this study is to determine the factors related to contraception use in Indonesia using the 2017 IDHS data.

## METHODS

This study uses secondary data from the 2017 IDHS which were downloaded online from [www.sdki.bkkbn.go.id](http://www.sdki.bkkbn.go.id) after registration and notification via electronic mail to the National Population and Family Planning Agency or called *Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN)*. The 2017 IDHS is a national survey conducted on 49,627 women of childbearing age (15-49 years). Detailed information about the study design, sampling methods, sample size calculations, questionnaires, data collection procedures and other survey procedures are available in the 2017 IDHS report.<sup>12</sup>

The unit of analysis in our study was 35,681 women of childbearing age (15-49 years) who were married or living together, while 13,946 women who were not married and divorced were not included in the analysis. The dependent variable is current contraceptive use and the independent variables consist of socio-demographic characteristics (mother's age, area of residence, region, and number of living children), socio-economic factors (education, mother's occupation, and wealth index), knowledge, discussions with husband and access to services (health insurance, field staff visits and family planning information from the media and health workers).

Mothers' age is grouped into 15-24, 25-34, 35-44 and  $\geq 45$  years. Residential area is grouped into

urban and rural areas and regional area grouped into outside Java-Bali and Java-Bali. The number of living children is grouped into  $\leq 2$  and  $> 2$ , and education levels into university, high school graduate, and no school-ungraduate high school. Employment status is grouped into employed and unemployed, while the wealth index consists of poor, middle, and wealthy groups. Knowledge is grouped into poor and good, discussions with the husband grouped into never and ever, while health insurance is grouped into yes and no. Family planning information from media and health workers is grouped into yes and no, while field staff visit is grouped into never and ever.

Bivariate analysis with chi-square test was carried out to determine differences of current contraceptive use by characteristics of women in childbearing age. Variables with  $p < 0.25$  then included in multivariate analysis. Multivariate analysis was performed with binomial logistic regression using the backward method to obtain the adjusted odd ratio of each variable. This study has been approved by the Ethics Committee of the Faculty of Medicine, Udayana University/Sanglah General Hospital on March 26, 2019.

## RESULTS

The number of contraceptive use among 35,681 women currently married/living together age 15-49 years in Indonesia in 2017 was 22,696 or 63.6% (95% CI: 63.2-64%).

**Table 1** presents the characteristics of respondents. Most respondents are aged 35-44 years old, live in the village, are in the Java-Bali region, have  $\leq 2$  living children, primary education level, are employed, in the wealthy group of wealth index, poor knowledge, did not have discussions with their husbands, have health insurance, received family planning information from the media, did not get family planning information from health workers and had not been visited by field workers.

**Table 2** presents the proportion of current contraceptive use based on several variables. It can be seen that the mother's age, place of residence, region, number of living children, education, employment, wealth index, knowledge, family planning discussions with husband, family planning information from the media and health workers and visits by health workers are significantly associated with current contraceptive use ( $p < 0.05$ ).

**Table 3** presents the results of multivariate analysis with logistic regression using backward method. The dominant factors that increase the likelihood of using contraception are the age of the mother 35-44 years (AOR=1.54; 95% CI: 1.42-1.66), and the age of the mother 25-34 years

**Table 1** Respondents' characteristics

Characteristics		n	%
Mothers' age (years)	15-24	4,017	11.3
	25-34	12,119	34.0
	35-44	13,687	38.4
	≥45	5,858	16.4
Area of residence	Urban	17,268	48.4
	Rural	18,413	51.6
Region	Outside Java-Bali	14,024	39.3
	Java-Bali	21,656	60.7
Number of living children	≤2	24,688	69.2
	>2	10,993	30.8
Education	University	4,375	12.3
	High school graduate	9,309	26.1
	No school-ungraduate high school	21,996	61.6
Employment*	Employed	21,990	61.6
	Unemployed	13,686	38.4
Wealth index	Poor	13,396	37.5
	Middle	7,388	20.7
	Wealthy	14,896	41.7
Knowledge	Poor	23,356	65.5
	Good	12,325	34.5
Discussions with husband*	Never	21,750	61.0
	Ever	13,905	39.0
Health insurance*	No	14,832	41.6
	Yes	20,844	58.4
Received information from media*	No	14,649	41.1
	Yes	20,999	58.9
Received information from health workers*	No	26,192	73.5
	Yes	9,444	26.5
Health worker visits*	Never	34,438	96.5
	Ever	1,232	3.5
<b>Total</b>		35,681	100.0

\*Number less than 35,681 due to data missing

**Table 2** Proportion of current contraceptive use by several variables in Indonesia

Variable	Current contraceptive use		p
	Yes n (%)	No n (%)	
<b>Mother's age (years)</b>			
15-24	2,283 (56.8)	1,734 (43.2)	<0.01
25-34	7,821 (64.5)	4,298 (35.5)	
35-44	9,492 (69.4)	4,195 (30.6)	
≥45	3,099 (52.9)	2,759 (47.1)	

Table 2 Continue

Variable	Current contraceptive use		p
	Yes n (%)	No n (%)	
<b>Place of residence</b>			
Urban	10,883 (63.0)	6,384 (37.0)	0.03
Rural	11,812 (64.2)	6,601 (35.8)	
<b>Region</b>			
Outside Java-Bali	8,522 (60.8)	5,502 (39.2)	<0.01
Java-Bali	14,173 (65.4)	7,483 (34.6)	
<b>Number of living children</b>			
≤2	15,088 (61.1)	9,600 (38.9)	<0.01
>2	7,608 (69.2)	3,385 (30.8)	
<b>Education</b>			
University	2,493 (57.0)	1,882 (43.0)	<0.01
High school graduate	5,811 (62.4)	3,499 (37.6)	
No school-ungraduate high school	14,392 (65.4)	7,604 (34.6)	
<b>Employment</b>			
Employed	8,952 (65.4)	4,733 (34.6)	<0.01
Unemployed	13,743 (62.5)	8,252 (37.5)	
<b>Wealth Index</b>			
Poor	8,523 (63.6)	4,874 (36.4)	<0.01
Middle	4,842 (65.5)	2,546 (34.5)	
Wealthy	9,331 (62.6)	5,565 (37.4)	
<b>Knowledge</b>			
Poor	14,640 (62.7)	8,716 (37.3)	<0.01
Good	8,055 (65.4)	4,269 (34.6)	
<b>Discussions with husband*</b>			
Never	13,657 (62.8)	8,093 (37.2)	<0.01
Ever	9,024 (64.9)	4,881 (35.1)	
<b>Health Insurance*</b>			
No	9,388 (63.3)	5,444 (36.7)	0.30
Yes	13,304 (63.8)	7,539 (36.2)	
<b>Received information from media*</b>			
No	9,082 (62.0)	5,567 (38.0)	<0.01
Yes	13,595 (64.7)	7,403 (35.3)	
<b>Received information from health care worker*</b>			
No	15,813 (60.4)	10,378 (39.6)	<0.01
Yes	6,855 (72.6)	2,589 (27.4)	
<b>Health worker visits*</b>			
Never	21,830 (63.4)	12,608 (36.6)	<0.01
Ever	859 (69.7)	374 (30.3)	

\*Number less than 35,681 due to data missing

**Table 3** Adjusted odds ratio of independent variables

Variable	AOR	95%CI		p
		Lower	Upper	
<b>Mother's age (years)</b>				
15-24	Ref			
25-34	1.37	1.27	1.48	<0.01
35-44	1.54	1.42	1.66	<0.01
≥45	0.75	0.68	0.82	<0.01
<b>Place of residence</b>				
Urban	Ref			
Rural	1.07	1.01	1.12	<0.01
<b>Region</b>				
Outside Java-Bali	Ref			
Java-Bali	1.28	1.22	1.35	<0.01
<b>Number of living children</b>				
≤2	Ref			
>2	1.52	1.44	1.60	<0.01
<b>Education</b>				
University	Ref			
High school graduate	1.25	1.16	1.35	<0.01
No school-ungraduate high school	1.46	1.35	1.59	<0.01
<b>Employment</b>				
Employed	Ref			
Unemployed	1.08	1.03	1.13	<0.01
<b>Wealth index</b>				
Poor	Ref			
Middle	1.07	1.00	1.14	0.03
Wealthy	0.99	0.93	1.05	0.80
<b>Knowledge</b>				
Poor	Ref			
Good	1.17	1.11	1.23	<0.01
<b>Received information from media</b>				
No	Ref			
Yes	1.04	0.99	1.09	0.10
<b>Received information from health worker</b>				
No	Ref			
Yes	1.67	1.59	1.77	<0.01

(AOR=1.37; 95%CI: 1.27-1.48) in the Java-Bali region (AOR=1.28; 95%CI: 1.22-1.35), having more than two living children (AOR=1.52; 95%CI: 1.44-1.60), primary education level (AOR=1.46; 95%CI: 1.35-1.59), secondary education level (AOR=1.25; 95%CI: 1.16-1.35), has a good level of knowledge (AOR=1.17; 95%CI: 1.11-1.23) and receipt of family planning information from health workers (AOR=1.67; 95%CI: 1.59-1.77).

Other variables that were more likely to use contraception but with a smaller AOR were living

in rural areas (AOR=1.07; 95%CI: 1.01-1.12), unemployed (AOR=1.08; 95%CI: 1.03-1.13), is in the middle wealth index range (AOR=1.07; 95%CI: 1.00-1.14). While mothers aged ≥45 years were less likely to use contraceptives (AOR=0.75; 95%CI: 0.68-0.82).

## DISCUSSION

The proportion of current contraceptive use in Indonesia in our analysis is 63.6% (95%CI:

63.2%-64%). This proportion is still lower than the 66% government target at the end of the 2015-2019.<sup>6</sup>

The most dominant factor related to current contraceptive use in Indonesia is family planning information from health workers. Other associated factors with AOR lower than family planning information from health workers are age 25-34 and 35-44 years, having more than two living children, education of no school-ungraduate high school, living in Java-Bali and good knowledge. Area of residence, employment and wealth index are statistically significant associated with current contraceptive use but are not programmatically significant because the lower value of the confidence interval is close to one.

Receiving family planning information from health workers is increasing the current contraceptive use, may be due to the trust of the women to health workers as a professional who can provide advice and consultations about side effects and alternative contraceptive methods, thereby affecting the women decision to use contraception.<sup>13</sup> A study in Myanmar showed that women who received good support from health workers were 15 times more likely to use contraception compared to those who received less support.<sup>14</sup> Another study conducted in Ghana also shows that the main source of family planning information is health workers who are widely available in the community to provide health services.<sup>15</sup>

In our analysis, it was found that the other dominant factor was maternal age of 25-44 years. This is likely because women over the age of 45 are approaching menopause and have a perception of being unable to have children (perception of infecund) so they do not use contraception, while women under the age of 25 years may still want a pregnancy.<sup>16-18</sup>

Another factor related to current contraceptive use is having more than 2 living children. This is probably due to the fact that mothers who have more than two children tend to start limiting or spacing their pregnancies.<sup>19</sup> In addition, it may also related to the family planning campaign that has long been introduced in Indonesia, which is "Two children are enough: A boy or a girl is the same". This is consistent with the average ideal number of desired children in the 2017 IDHS, which is 2.4 children.<sup>12</sup>

The results of our analysis show that women with lower levels of education were more likely to use contraceptives. Wealth indexes are also statistically found to be related to current contraceptive use but are not programmatically significant because the lower value of the confidence interval is close to one. This is likely due to the collinearity between

the wealth index and the education level, where the lower the education level, the lower the respondents' wealth index. This explanation is supported by the results of further bivariate analysis which found that 83.0% respondents with poor category of wealth index did not finish school, 13.9% graduated from high school and only 3.1% were university graduates. About 67.9% respondents with a middle category of wealth index did not go to school or graduated from high school, 26.6% graduated from high school and only 5.5% graduated from university. Families with lower socioeconomic status are more likely to use contraception, which is possibly because they would be unable to afford various needs (education, health, etc.) if they have more children. In addition, the Indonesian government prioritizes family planning services to the poorer population groups.<sup>20</sup>

Women in Java-Bali were more likely to use contraceptives. This is likely because it is related to the condition of infrastructure such as better transportation, health services, etc. in Java-Bali compared to that outside Java-Bali.<sup>21</sup>

Women with good knowledge were more likely to use contraceptives. Similar findings were reported in studies in Myanmar<sup>14</sup> and Northwest Ethiopia.<sup>22</sup> This is likely related to exposure to information from health workers, while exposure from the media does not have a significant relationship. Theoretically, behavior change based on sufficient knowledge and high awareness will lead someone to behave better.<sup>23</sup> Green in his theory also suggests that knowledge is a predisposing factor that influences improved behavior change.<sup>24</sup>

Residing in rural areas and being employed are statistically more likely to use a contraceptive but not programmatically significant because the lower value of the confidence interval is close to one. On the other hand, a study in Nigeria found that those living in rural areas were less likely to use contraceptives<sup>25</sup> and women's employment status was reported to be unrelated to current contraceptive use.<sup>26</sup>

In our study, the factors found not associated with current contraceptive use were discussions with the husband, having health insurance, family planning information from the media, and field workers visits. A publication that used secondary data analysis of the 1997 and 2007 IDHS found that the most dominant factor related to current contraceptive use was the husband's view of family planning.<sup>9</sup> In the current analysis, however, discussion with husband is not found to be significantly associated with contraceptive use. It maybe due to the increase of women's autonomy towards contraceptive use. The current finding also differ from a

study conducted in Burkina Faso where discussions with husbands were found to have an association with contraceptive use.<sup>27</sup> The insignificant association between information from the media and field workers visit with contraceptive use are likely due to the decreased role of the family planning field workers and the inactive family planning campaign through the media. Findings about media exposure in our study were reported to differ from studies in Afghanistan which showed that family planning information through public and private media was related to contraceptive use.<sup>28</sup> A study in Bangladesh showed that visits from family planning officers had the highest positive impact on contraceptive use compared to women who did not get a visit.<sup>29</sup> The results of the 2012 IDHS data analysis in Indonesia showed that those who had health insurance were more likely to use contraceptive but with a lower AOR limit of close to one (AOR=1.241; 95% CI: 1.098-1.404).<sup>30</sup>

This study is a cross-sectional that does not show a causal relationship. Another limitation is that our study uses secondary data so that analysis can only be conducted using available variables.

## CONCLUSION

The proportion of current contraceptive use in childbearing age women in Indonesia has not reached the government target. Factors that were more likely to increase current contraceptive use were family planning information from health workers, age, region, number of living children, education, and knowledge. Place of residence, employment, and wealth index are statistically significant associated with current contraceptive use but are not programmatically significant because the lower value of the confidence interval is close to one. Unassociated factors were discussions with husbands, insurance, family planning information from the media, and field staff visits. Based on our analysis, the family planning program in Indonesia should therefore consider those factors to increase the current contraceptive use.

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