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Are education level of women related to contraceptive use? Analysis of the 2017 Indonesia demographic and health survey

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***Abstract*---**Introduction: Indonesia is a developing country that has population problems. Problems associated with Indonesia's population include a large population and a high level of population growth. The contraceptive prevalence rate in Indonesia has not experienced much improvement, which has led to an increase in the number of pregnancies. This article is structured to analyze the relationship between education level and contraceptive use among women of childbearing age (15-49 years) in Indonesia. Methods: The research design used was a cross-sectional study in which researchers looked at the relationship between education and contraceptive use. The research sample is fertile women aged 15-49 years from the total population of women of childbearing age in Indonesia. The selection of respondents using simple random sampling technique. Analysis: The data is processed using SPSS software. Result: This study shows users of contraceptive contraceptives (62.1%), mostly in urban areas (52.1%), but there is no relationship between contraceptive use in urban areas and women in rural areas, Wealth status with the highest poorest 27.8 %, the age category is a fraction of 0.5% , work status (60.1%) working, marital status (93.7%) married/living with a partner, health insurance (63.8%) using, parity (68.9 %) multipara. Women of childbearing age with primary education (OR 2,107; 95% CI 1.936 – 2,294) compared to those without education, Contraceptive use in secondary education (OR 2.172; 95% CI 1,992 – 2,369) compared with uneducated, Contraceptive use in higher education (OR 1.966; 95% CI 1.780 – 2,171) compared to the uneducated. Conclusion: The results of the study indicate that the level of education has an influence on the use of contraceptives in women. Education has been shown to be an important factor in women's contraceptive use in Indonesia.

***Keywords*---**contraceptive, education, women, health survey.

Introduction

Indonesia is a developing country that has population problems. Problems associated with Indonesia's population include a large population and a high level of population growth (11). One effort to control this population growth involves the use of a family planning programme. Family planning is a movement that aims to form healthy and prosperous families by limiting or planning the number of children through contraception. Contraception is a method or tool used to prevent pregnancy. Every woman of childbearing age has the right to choose a contraceptive method that works for them (12). The fundamental essence of reproductive health is to allow women to decide on the number of children they have and when they are born (13). The use of contraception in women of childbearing age is believed to support quality family formation (14).

Furthermore, the contraceptive prevalence rate (CPR) has not experienced much improvement. The contraceptive prevalence rate in Indonesia has not experienced much improvement, which has led to an increase in the number of pregnancies. The impact of contraceptive failure is an unwanted pregnancy. An unwanted

pregnancy is an unhealthy pregnancy that can become a burden for women. Unplanned pregnancies are responsible for 90% of unwanted births. Overall, 17% of these pregnancies are a burden for the women and 89% end in unsafe abortions that threaten women's welfare. In 2010, the global abortion rate increased from 53 to 56%. In Southeast Asia, it increased from 55 to 59%. Unintended pregnancies will also increase the number of births (10).

Poor knowledge about contraception has been documented in a variety of settings worldwide. This lack of knowledge has been identified as a possible determinant of failure to consistently and correctly use effective contraception and, subsequently, as a key cause of unintended pregnancy. Women themselves have recognized the importance of their lack of knowledge. For example, female university students attributed their failure to use long-acting reversible contraception (LARC) to their lackof knowledge of the methods, and women in a postnatal ward cited their lack of knowledge of postpartum methods. Numerous interventions have been developed to improve contraceptive knowledge these are predicated on the assumption that a certain degree or type of knowledge is needed to prompt behavior change related to contraception use (17).

Knowledge was defined as the state of awareness of contraceptive methods, any specific types and the source of contraceptives. Attitude or perception was defined as respondent's opinion or view, whether positive or negative towards a practice or behavior such as contraceptive use. Knowledge was operationalized based on the following question "Have you ever heard about contraceptives?" Affirmative responses (yes) led to subsequent questions on the reasons for use of contraceptives, methods and the sources known to her. Then the respondent was considered knowledgeable if they correctly provided responses based on the listed options on the tool. Knowledge, perceived acceptability and benefits of contraceptive use were nearly universal, but contraceptive use was suboptimal in this setting. Ever trying to terminate a pregnancy was common and a clear indicator of unintended pregnancies (16).

Based on the background, this article was prepared to analyze the relationship between education level and contraceptive use among women of childbearing age (15-49 years) in Indonesia. The findings in this study are useful for family planning policy makers in Indonesia to determine specific targets based on education.

Materials and Methods

This study used secondary data from the Indonesian Demographic and Health Survey (IDHS) in 2017 (15). The survey was conducted in 34 provinces in Indonesia by the Central Statistics Agency, the National Population and Family Planning Agency, and the Ministry of Health of the Republic of Indonesia. The research design used was a cross-sectional study where the researchers looked at the relationship between education and the use of contraceptives.

The research sample is fertile women aged 15-49 years from the total population of women of childbearing age in Indonesia. The selection of respondents using simple random sampling technique. The 2017 IDHS obtained ethical approval

from the National Institute for Health Research and Development of the Indonesian Ministry of Health. All of the respondents' identities are unknown according to the data and the respondents gave written consent for their involvement in the research. Permission to use the 2017 IDHS in this study was obtained from ICF International on September 27, 2019, through its website (https://dhsprogram.com). Implementation time is from 2017.

The operational definition consists of characteristics, namely contraceptive use, type of place, wealth status, age group, work status, marital status, health insurance, parity, and the respondent's education level.The use of contraception is a tool/method used to regulate the time between pregnancies. The use of contraceptives is divided into two categories: use and no use. Contraceptive use includes traditional and modern contraception. The 15–49 years age group was divided into seven groups, with a reference age of 15–19 years. Employment status was split into two groups: working and not working. Education level consisted of four groups, specifically no education, primary education, secondary education and higher education. Marital status was divided into two groups: married/living with their partner and widowed/divorced/never in a union/no longer living together/separated. Wealth status is a person's socioeconomic status and describes their wealth level. Wealth level was divided into five groups: poorest, poorer, middle, richer and richest. Health insurance was split into two groups: having and not having health insurance. Parity was the number of deliveries, which was divided into three groups: primipara (1 delivery), multipara and grand multipara (4> labour). The data is processed using SPSS software. The first step in data analysis involved testing the relationship using the chi-squared test because all of the variables are dichotomous. In the final stage, the data analysis was performed using binary logistic regression.

Results

Table 1 shows that most use contraceptives (62.1%) where there is a relationship between contraceptive use and education level P = < 0.001. The type of place is mostly in the city (52.1%) where there is a relationship between type of place and education level P=<0.001. Wealth status with the highest poorest 27.8% where there is a relationship between wealth status and education level P=<0.001. The age category of 0.5% uses contraceptives where there is a relationship between age and education level P = < 0.001. Work status mostly working (60.1%) where there is a relationship between work status and education level P=<0.001, marital status mostly married/living with partners (93.7%) where there is a relationship between marital status and education level P=< 0.001, most health insurance uses (63.8%) where there is a relationship between health insurance and education level P=<0.001, parity is mostly multipara (68.9%) where there is a parity relationship with education level P=<0.001.

Table 1. Descriptive Statistics of Contraceptive Use by Education Level in Indonesia (n=86,149)

CHARACTERISTICS	EDUCATION LEVEL				ALL	P
	No Education	Primary	Secondary	Higher		

Contraceptive use						0.000
No	1853(63.9%)	13132(40.2%)	14391(34.9%)	3306(35.1%)	32682(37.9%)	
Yes	1047(36.1%)	19508(59.8%)	26804(65.1%)	6108(64.9%)	53467(62.1%)	
Type of place						0.000
Urban	575(19.8%)	11225(34.4%)	23201(56.3%)	6295(66.9%)	41296(47.9%)	
Rural (ref.)	2325(80.2%)	21415(65.6%)	17994(43.7%)	3119(33.1%)	44853(52.1%)	
Wealth status						0.000
Poorest (ref.)	2053(70.8%)	13484(41.3%)	7866(19.1%)	543(5.8%)	23946(27.8%)	
Poorer	476(16.4%)	7733(23.7%)	7814(19.0%)	802(8.5%)	16825(19.5%)	
Middle	220(7.6%)	5796(17.8%)	8456(20.5%)	1086(11.5%)	15558(18.1%)	
Richer	102(3.5%)	3906(12.0%)	9129(22.2%)	2014(21.4%)	15151(17.6%)	
Richest	49(1.7%)	1721(5.3%)	7930(19.2%)	4969(52.8%)	14669(17.0%)	
Age group						0.000
15-19 (ref.)	7(0.2%)	113(0.3%)	308(0.7%)	6(0.1%)	434(0.5%)	
20-24	45(1.6%)	713(2.2%)	2345(5.7%)	238(2.5%)	3341(3.9%)	
25-29	112(3.9%)	2081(6.4%)	4916(11.9%)	1271(13.5%)	8380(9.7%)	
30-34	247(8.5%)	4331(13.3%)	7644(18.6%)	2209(23.5%)	14431(16.8%)	
35-39	438(15.1%)	7115(21.8%)	9585(23.3%)	2229(23.7%)	19367(22.5%)	
40-44	719(24.8%)	8846(27.1%)	9098(22.1%)	1812(19.2%)	20475(23.8%)	
45-49	1332(45.9%)	9441(28.9%)	7299(17.7%)	1649(17.5%)	19721(22.9%)	
Work status						0.000
No (ref.)	851(29.3%)	12971(39.7%)	18464(44.8%)	2076(22.1%)	34362(39.9%)	
Work	2049(70.7%)	19669(60.3%)	22731(55.2%)	7338(77.9%)	51787(60.1%)	
Marital status						0.000
Married/living with partner	2604(89.8%)	30328(92.9%)	38879(94.4%)	8921(94.8%)	80732(93.7%)	
widowed/divorced (ref.)	296(10.2%)	2312(7.1%)	2316(5.6%)	493(5.2%)	5417(6.3%)	
Health Insurance						0.000
No (ref.)	1067(36.8%)	12834(39.3%)	15678(38.1%)	1632(17.3%)	31211(36.2%)	

Yes	1833(63.2 %)	19806(60. 7%)	25517(61. 9%)	7782(82.7 %)	54938(63. 8%)	
Parity						0.0 00
Primipara (ref.)	86(3.0%)	1811(5.5 %)	5109(12.4 %)	1607(17.1 %)	8613(10.0 %)	
Multipara	1229(42.4 %)	20978(64. 3%)	29954(72. 7%)	7191(76.4 %)	59352(68. 9%)	
Grandemultipara	1585(54.7 %)	9851(30.2 %)	6132(14.9 %)	616(6.5%)	18184(21. 1%)	

Note: ∗ p < 0.05; ∗∗ p < 0.01; ∗∗∗p < 0.001.

Table 2 of the Binary Logistic Regression test shows that women of childbearing age who have primary education have a 2,107 probability of using contraception (OR 2,107; 95% CI 1,936 – 2,294) compared to women of childbearing age who have no education. Contraceptive use in secondary education had a 2,172 probability of using contraception (OR 2,172; 95% CI 1,992 – 2,369) compared to uneducated women of childbearing age. Contraceptive use in higher education had a 1.966 probability of using contraception (OR 1.966; 95% CI 1.780 – 2,171) compared to uneducated women of childbearing age. Contraceptive use has no relationship in urban areas with women in rural areas.

Contraceptive use in poorer had a 1,343 probability of using contraception (OR 1,343; 95% CI 1,284 – 1,405) compared to poorest, contraceptive use in Wealth status: middle had 1,435 odds of using contraception (OR 1,435 ; 95% CI 1.367 – 1,506) compared with poorest. Contraceptive use on Wealth status: richer had a 1,438 probability of using contraception (OR 1,438; 95% CI 1.366 – 1.506) compared to poorest, contraceptive use on wealth status: Richest had a 1,487 probability of using contraception (OR 1,487; 95% CI 1,405 – 1.574) compared to the poorest. Contraceptive use at age 20 – 24 had a 0.741 probability of using contraception (OR 0.741; 95% CI 0.591 – 0.929 compared to age 15 – 19. Contraceptive use at age 25 –29 had a 0.468 probability of using contraception (OR 0.468; 95%). CI 0.375 – 0.583) compared to age 15 – 19 years, Contraceptive use at age 30 – 34 had a 0.426 probability of using contraception (OR 0.426; 95% CI 0.342 – 0.532) compared to age 15 – 19. Contraceptive use at age 35 - 39 had a 0.440 probability of using contraception (OR 0.440; 95% CI 0.352 – 0.549) compared to those aged 15 – 19. Contraceptive use at age 40 – 44 had a 0.355 probability of using contraception (OR 0.355; 95% CI 0.284 – 0.443) compared to those aged 15 – 19. Contraceptive use at the age of 45 – 49 had a 0.169 probability of using contraception (OR 0.169; 95% CI 0.136 – 0.212) compared to those aged 15 – 19 years.

Contraceptive use in working status had a 1.195 probability of using contraception (OR 1.195; 95% CI 1.158 – 1.233) compared to not working. Contraceptive use in married/living with a partner has a 32,995 probability of using contraception (OR 32,995; 95% CI 29,247 – 37,223) compared to widowed/divorced. Contraceptive use in using health insurance has a 1.049 probability of using contraception (OR 1.049; 95% CI 1.016 – 1.083) compared to not using health insurance. Contraceptive use in multiparas had a 3.117 probability of using contraception (OR 3.117; 95% CI 2.946 – 1.514) compared to

primiparas. Contraceptive use grande multiparas had a 2,246 chance of using contraceptives (OR 2,246; 95% CI 2.101 – 1.402) compared to primiparas.

Table 2. Binary Logistic Regression of The Contraceptive Use among Childbeareng Age Women in Indonesia (n=86,149)

DETERMINANTS	CONTRACEPTIVE USE			
			95% CI	
	p-value	AOR	Lower Bound	Upper Bound
Education: Primary	<0.001***	2.107	1.936	2.294
Education: Secondary	<0.001** *	2.172	1.992	2.369
Education: Higher	<0.001** *	1.966	1.780	2.171
Area: Urban	0.507	0.988	0.955	1.023
Wealth status: Poorer	<0.001***	1.343	1.284	1.405
Wealth status: Middle	<0.001***	1.435	1.367	1.506
Wealth status: Richer	<0.001***	1.438	1.366	1.514
Wealth status: Richest	<0.001***	1.487	1.405	1.574
Age group: 20-24	0.010*	0.741	0.591	0.929
Age group: 25-29	<0.001***	0.468	0.375	0.583
Age group: 30-34	<0.001***	0.426	0.342	0.532
Age group: 35-39	<0.001***	0.440	0.352	0.549
Age group: 40-44	<0.001***	0.355	0.284	0.443
Age group: 45-49	<0.001***	0.169	0.136	0.212
Work status: Work	<0.001***	1.195	1.158	1.233
Marital status: Married/living with partner	<0.001***	32.99 5	29.247	37.223
Health insurance: Yes	0.003**	1.049	1.016	1.083
Parity: Multipara	<0.001***	3.117	2.946	3.297
Parity: Grandemultipara	<0.001***	2.246	2.101	2.402

Note: ∗ p < 0.05; ∗∗ p < 0.01; ∗∗∗p < 0.001.

Discussion

Table 1 shows the high number of women who use contraception as much as 62.1%. This is in accordance with the results of research in recent years in developing countries (2,3). The results of this study indicate the trend of contraceptive use according to the level of education. The higher the education level of the respondent, the more contraception is used. This is in accordance with research conducted in Cameroon in 2016. The study showed as many as 95.6% of respondents used contraception to prevent unwanted pregnancies with the same trend, namely the higher the level of education, the more people used contraception to prevent pregnancy(1).

Education is an effort to develop personality and abilities inside and outside school that lasts a lifetime(5). Education is also a place to carry out the learning process, which makes a person more mature in determining attitudes and choices(6). In addition, education will affect a person's learning process, the higher a person's level of education, the easier it is for that person to get information, so that the knowledge obtained is also more and more (5).

A person with a high level of education will be able to make more rational decisions, generally open to accepting changes or new things compared to those with low education (7). In addition, women who have higher education will usually work and carry out other professional activities outside the home so they choose to limit the number of children by using contraception (8). This is what underlies the number of respondents with higher education choosing to use contraception compared to respondents with low education. However, there is a study whose results do not match the results of this study, namely a study conducted in Spain in 2016 which stated that there was no relationship between the level of knowledge and the use of contraception (4).

Based on the results of this study, it can be concluded that education is an important factor in the use of contraception among women in Indonesia. These results are expected to encourage the Indonesian government to make efforts to improve women's education in Indonesia so that their knowledge will also increase, especially for those who are poor and live in villages. Several interventions can also be carried out to increase knowledge for women such as counseling, family planning and health education needed by several groups of society.

Table 1 of wealth status shows that 52.8% of respondents with higher education are also people with high wealth. This can affect the respondent's ability to continuously use contraception because of their economic ability to buy the contraception they want. This is in accordance with a study conducted by Diaz and Oliveira in 2015 in Mozambique which stated that economic status was related to the behavior of using contraception (8,9).

Conclusions

Education is proven to be a factor influencing the use of contraception by women in Indonesia. Based on the results of research conducted, the variables studied have levels, it can be seen that contraceptive use in primary education, contraceptive use in secondary education and contraceptive use in higher education each has a value of 95% compared to contraceptive use without education.

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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