

ORIGINAL ARTICLE

AN ANALYSIS OF SOCIODEMOGRAPHY, KNOWLEDGE, SOURCE OF INFORMATION, AND HEALTH INSURANCE OWNERSHIP ON THE BEHAVIOUR OF WOMEN OF CHILDBEARING AGE IN CONTRACEPTION USE IN WEST JAVA

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ABSTRACT

The high population growth in Indonesia can be due to inefficacious target of contraceptive use. In 2018, the number of active contraceptive users in Indonesia and West Java Province was still below 70%, which caused by various factors. Thus, this study aims at analyzing sociodemographic factors, knowledge of contraceptive methods, sources of family planning information, and insurance ownership on the behavior of women of childbearing age in contraceptive use. This study employs an analytical method with a cross-sectional research design, and secondary sources from the 2019 Program Performance and Accountability Survey of KKBPK for West Java. A multivariate analysis was conducted using multiple logistic regression. The results of this study revealed that the prevalence of contraceptive use among women of childbearing age (women aged 15-49 years) in West Java was 69.55%. The sociodemographic factors related to contraceptive use were younger age, higher education level, lower wealth quintile, and living in rural areas. More knowledge of modern contraceptives and information from more institutions were related to an increase in contraceptive use. However, information from a wider variety of mass media was related to a decrease in contraceptive use. Meanwhile, health insurance ownership was not related to contraceptive use behavior. Sociodemographic factors, knowledge of modern contraceptives, and various sources of family planning information were related to contraceptive use. Therefore, these factors are essential to be considered in implementing family planning programs, especially in relation to contraceptive use.

Keywords: Contraception, Family Planning, Women of Childbearing Age

INTRODUCTION

West Java is the most populous province in Indonesia. In 2019, the population growth rate in West Java (1.48%) was higher than the Indonesian population growth rate (1.31%)¹. In the same year, total fertility rate (TFR) in West Java was 2.522, which had increased compared to the TFR in 2018 (2.49)². This uncontrolled population growth can have impacts on the need for water, food, energy sources, health, and education³. High population growth is also related to an increase in poverty and a decrease in life expectancy⁴. In response to this problem, the Indonesian government has implemented the family planning (FP) program, which is technically stated in the family development, population, and family planning (Bangga Kencana, Pembangunan Keluarga, Kependudukan dan Keluarga Berencana) program. Most of the FP programs are directed to women of childbearing age which are defined as women aged 15-49 years⁵.

The FP program is a national program aiming at regulating birth spacing and pregnancy as well as the ideal age for childbirth². According to WHO, birth spacing has a positive effect on the health of women and children⁶. The objectives of the FP program can be achieved with the use of contraception. However, according to the Indonesia Health Profile 2018, the number of contraceptive users in Indonesia was only 63.27%, while in West Java was only 66.48%⁷. This is constrained by the lack of information about contraception⁸. The lack of information related to the FP program and support from closest relatives also affects this issue. The result of the study at Luwunggede Public Health Center showed that women who had received information about FP tended to use contraception. This proves that information about FP influences the choice and decision to use contraception. A study conducted in Saudi Arabia showed that knowledge of contraceptive methods was better known by women than men. Knowledge about FP and birth spacing needs to be focused to reduce the fear of

side effects between men and women through effective counseling and adequate information. In addition, the involvement of community and religious leaders, and health workers in awareness-raising campaigns can help address socio-cultural and religious issues⁹.

Lack of knowledge in contraceptives use is related to a person's knowledge of FP¹⁰. Related to this issue, the government has formulated a national policy and strategy for improving FP services by using long-term contraceptive methods to reduce the risk of discontinuation¹¹. On the other hand, the policy has not been proven to be effective in increasing active contraceptive users in Indonesia and in West Java.

Studies from various countries also show that other factors influence contraceptive use. Sociodemographic factors such as age, education, place of residence, level of welfare, and health insurance ownership are related to contraceptive use^{12,17-19}. However, studies from different countries have not shown similar results. Studies conducted in Zambia¹² and in Ghana¹³ showed contraception use was more common in young women than in older women. Meanwhile, the study conducted in Oman¹⁴ showed the opposite result. Contraception is generally more used in urban areas, but the studies conducted in North Ethiopia¹⁵ and Myanmar¹⁶ revealed that there was an increase in contraceptive use in rural areas. The differences illustrated that factors related to contraceptive use can differ depending on the conditions of a country or region.

West Java as the most populous province in Indonesia needs to have an accurate strategy in FP program, especially in terms of increasing contraceptive use. Therefore, this study aims at analyzing sociodemographic factors, knowledge, FP information sources, and insurance ownership related to contraceptive use in women of childbearing age in West Java. Based on various factors related to contraceptive use, the West Java government and the Indonesian government are expected to implement the FP program more effectively.

METHODS

This study employs an analytical method with a cross-sectional design. The secondary data from the 2019 Program Performance and Accountability Survey of KKBPK for West Java was used. The samples were women who were not pregnant, aged 15-49 years, and married or cohabitated during the survey. The dependent variable of this study is contraception use, which is defined as the contraceptive method used during the survey. The independent variables are age, education level, wealth quintile, residence classification, knowledge of modern contraceptive methods (tubectomy, vasectomy, implant, IUD, injection,

pill, emergency contraception, male condom, female condom, intravag, and lactational amenorrhoea), mass media (television, newspapers, radio, magazines/tabloids, and websites/internet), outdoor media (pamphlets/leaflets/brochures, flipcharts, posters, banners, billboards, banners, exhibitions, FP information unit cars, and murals), officers/communities (FP extension officers, teachers, religious leaders, community leaders, health workers, cadres, and friends/relatives), and institutions (formal and non-formal education, and community organizations) that have provided information on FP.

The univariate data analysis was presented descriptively with percentage, mean, and standard deviation. The bivariate data analysis used a t-test and Chi-squared test. If based on the bivariate test, p-value < 0.25, the independent variables were then inserted into the multivariate analysis (multiple logistic regression test) to determine the relationship between the independent variable and the dependent variable. In the multivariate analysis, the relationship was considered statistically significant if the p-value < 0.05. The data processing and analysis were carried out using STATA 16.1. This research has received ethical permission from the BKKBN with No. 454/LB.02/H4/2019.

RESULTS

Total women included in this study were 8,109 while the proportion of contraceptive use was 69.55%. Table 1 presents the sociodemography, knowledge, source of FP information, and health insurance ownership based on contraception use. The women who did not use contraception tended to be older than those who use contraception. The high proportion of women using contraception was in line with their high educational background. The proportion of contraceptive use of women who did not go to school was 47.31%, while those who graduated from university were 73.56%. Women who did not use contraception were slightly more wealthy, and the highest proportion of women who did not use contraception was in the high wealth quintile group. Contraception use was higher in rural areas than in urban areas. Women who did not use contraception had lower number of modern contraceptive known and fewer sources of FP information. Meanwhile, the proportion of women who did not use contraception was lower in those who did not have health insurance. The results of the bivariate analysis showed significant result for all variables, thus all variables were included in multivariate analysis.

Table 1. Sociodemography, knowledge, source of FP information, and health insurance ownership based on contraception use of women of childbearing age

Variable	Not using contraception n (%)	Using contraception n (%)	p-value
Sociodemography			
Age	38.36 ± 7.91*	35.17 ± 7.73*	< 0.001
< 20 years	15 (15.96)	79 (84.04)	
20 - 35 years	758 (23.47)	2,471 (76.53)	
> 35 years	1,696 (35.44)	3,090 (64.56)	
Education			< 0.001
No school	49 (52.69)	44 (47.31)	
Primary school	1,018 (32.40)	2,124 (67.60)	
Junior high school	616 (29.29)	1,487 (70.71)	
Senior high school	596 (28.82)	1,472 (71.18)	
DI/DII/DIII/Academy	66 (28.21)	168 (71.79)	
University	124 (26.44)	345 (73.56)	
Wealth quintile	6.56 ± 2.54*	6.44 ± 2.55*	0.066
Low	329 (30.46)	751 (69.54)	
Moderate	1,185 (29.71)	2,804 (70.29)	
High	955 (31.41)	2,085 (68.59)	
Residence			0.001
Urban	1,584 (31.83)	3,393(68.17)	
Rural	885 (28.26)	5,640(71.74)	
Knowledge, source of FP information, and health insurance ownership			
The number of modern contraceptive methods that are known	6.59 ± 1.39*	6.68 ± 1.51*	0.012
The number of mass media that has provided FP information	1.27 ± 0.94*	1.33 ± 0.97*	0.0098
The number of outdoor media that has provided FP information	1.75 ± 1.84*	1.92 ± 1.83*	< 0.001
The number of officers/communities that have provided FP information	2.89 ± 1.82*	3.07 ± 1.90*	< 0.001
The number of institutions that have provided FP information	0.91 ± 0.91*	1.02 ± 0.85*	< 0.001
Health insurance ownership			0.102
Have	1,610 (31.08)	3,571 (68.92)	
Do not have	859 (29.34)	2,069 (70.66)	

* mean ± SD

Table 2 presents the results of the multivariate analysis. Age and wealth quintile were inversely related to contraceptive use. The younger the age and the lower the wealth quintile means the higher possibility of contraception use (Adjusted Odds Ratio (AOR) = 0.947; 95% CI = 0.941- 0.95 for age, and AOR = 0.97; 95% CI = 0.95 -0.99 for wealth quintile). Higher education was associated with an increase in contraceptive use. Those who graduated from the university were 2.4 times more likely to use contraception than those who did not go to school (AOR = 2.36; 95% CI = 1.45 - 3.82). Meanwhile, women who lived in rural areas tended to have a higher possibility to use

contraception (AOR = 1.12; 95% CI = 1.009 - 1.25). The more the number of modern contraceptive methods known and the more the number of institutions that had provided FP information means the contraception use tended to increase (AOR = 1.05; 95% CI = 1.01- 1.09 for the number of modern contraceptive methods, and AOR = 1.12; 95% CI = 1.04 - 1.20 for the number of institutions). However, the more the number of mass media that had provided FP information, the contraception use tended to decrease (AOR = 0.93; 95% CI = 0.87-0.99). Meanwhile, health insurance ownership was not related to contraceptive use (AOR = 1.02; 95% CI = 0.92-1.13)

Table 2. Multivariate analysis of factors related to contraceptive use in women of childbearing age

Variable	AOR (95% IK)	p-value
Sociodemography		
Age	0.947 (0.941-0.95)	<0.001
Education		
No school	1	
Primary school	1.93 (1.26-2.95)	0.002
Junior high school	1.76 (1.14-2.71)	0.011
Senior high school	2.03 (1.31-3.15)	0.002
DI/DII/DIII/Academy	2.58 (1.53-4.36)	<0.001
University	2.36 (1.45-3.82)	0.001
Wealth quintile	0.97 (0.95-0.99)	<0.001
Residence		
Urban	1.12 (1.009-1.25)	0.048
Rural	1	
Knowledge, source of FP information, and health insurance ownership		
The number of modern contraceptive methods that are known	1.05 (1.01-1.09)	0.008
The number of mass media that has provided FP information	0.93 (0.87-0.99)	0.029
The number of outdoor media that has provided FP information	1.03 (0.997-1.06)	0.072
The number of officers/communities that have provided FP information	1.01 (0.97-1.04)	0.771
The number of institutions that have provided FP information	1.12 (1.04-1.20)	0.002
Insurance ownership		
Have	1	
Do not have	1.02 (0.92-1.13)	0.679

DISCUSSION

The proportion of contraceptive use in this study was 69.55%. This means that the proportion did not increase much compared to 2018 (66.48%)⁷. This indicated that the contraceptive use promotion is still needed to be optimized. Factors related to contraceptive use of women of childbearing age in West Java were age, education level, wealth quintile, place of residence, the number of known modern contraceptive methods, and the number of mass media and institutions that have provided FP information can be obtained (Table 2).

Sociodemography

In this study, contraceptive use tended to increase at a younger age (Table 2). This result is in line with studies conducted in Zambia¹², Ghana¹³, and Malawi¹⁷, which stated that age was inversely related to contraceptive use. Older women had a lower desire to use contraception because they have reduced sexual desire and a small proportion of women aged 35-49 had experienced menopause²⁰. However, pregnancy at older age is still a risk since it can result in maternal death²¹.

Women with higher education tended to use contraception. Women at all levels of education were more likely to use contraception compared

to those who did not go to school (Table 2). Studies conducted in 35 low and middle income countries also found that women with low levels of education were less likely to use contraception²². This result is in line with studies conducted in Ghana¹³, Zambia¹², Malawi¹⁷, Nigeria²³, and Ethiopia²⁴. Gustavo et al. argue that higher education is an important factor in increasing knowledge as an effort to control fertility through FP programs²⁵. Education is also related to an increase in knowledge and attitudes of modern contraceptive use²⁴. Many countries are starting to support education for women to boost economic growth and promote FP as well as the use of contraception²⁶.

The wealth quintile was inversely related to contraceptive use (Table 2). This finding is different from studies conducted in Zambia¹² dan Nigeria²³, which concluded that contraceptive use was higher in women with higher levels of welfare or income. However, this finding is in accordance with the study conducted in Ghana in 2014, which reveals that the higher the level of well-being of women, the lower the chances of using contraception²⁷. The social scope and economic components can affect access to contraceptive information and services for women in contraceptive use²⁸. Rizkianti et al. found that the FP counseling program in Indonesia only focused on low economic level, while higher economic

levels were considered to have a better understanding²⁹.

This study found that women who live in rural areas had a higher tendency to use contraception than those who live in urban areas. This finding is different from studies conducted in Malawi¹⁷, Nigeria²³, and Bangladesh³⁰. However, studies done in Myanmar¹⁶, Ghana²⁷, and North Ethiopia¹⁵ supported this study. The study in Myanmar shows that the coverage of long-term contraceptive method was better in rural areas than in urban areas¹⁶. In Ghana, women who lived in rural areas had a higher tendency to use contraception than those who live in urban areas²⁷. Meanwhile, in North Ethiopia, modern contraceptive use was higher in rural areas than in urban areas¹⁵. The results of this study show that West Java has succeeded in expanding the scope of contraceptive use to rural areas. However, access to contraceptive use in urban areas still needs to be considered, especially for the underprivileged population. According to WHO, urban underprivileged people in Southeast Asia tend to have lower access to health services³¹.

Knowledge of modern contraceptive methods and sources of FP information

In this study, the more the number of modern contraceptive methods known, the use of contraception tended to increase. The result of this study is in line with the study conducted in Tanzania, which found that knowledge is an important determinant of contraceptive use⁴. The study conducted in Ethiopia also showed that knowledge of long-term contraceptive method is a predictor of long-term contraceptive use³². However, the measurement of knowledge was only about having heard of a contraceptive method. Knowledge of the overall effectiveness (benefit or side effect) was not measured. Whereas, knowledge about the effectiveness of contraceptive methods is important to make choices about the most suitable method to use³³. Therefore, women of childbearing age should have sufficient knowledge before choosing a method.

The number of institutions that have provided information on FP was related to contraceptive use. Information is one of the factors influencing a person's knowledge in the decision-making³³. In this study, the more the number of institutions that have provided FP information, the use of contraceptives tends to increase. Although few studies examine this case, the study in Bangladesh found that women who are members of the Non-Governmental Organization (NGO) were 1.58 times more likely to use contraception³⁴. This indicates that the provision of FP information in groups, such as in schools and community organizations, needs to be improved.

Media has contributed to the socialization of FP services. Clear Information, Education and Communication (IEC) exposure increases knowledge in making the right decisions³⁵. In this study, the increasing number of mass media reduced the tendency to use contraception. This result is in contrary compared to previous research^{12,24,26}. This can occur because this study only considered the number of mass media that has provided FP information, not the type of mass media. Further research can examine the relationship between certain types of mass media and contraceptive use.

The government launched a FP program based on IEC activities in order to increase contraceptive use. This activity is carried out through face-to-face and group meetings, as well as mass media². Many studies suggest that health education programs including counseling are important to promote contraceptive use. The counseling for women of childbearing age is effective in increasing knowledge for choosing contraceptive methods, and it can eventually increase contraception use of^{36,37}. The IEC activities through face-to-face and group meetings were highly dependent on the role of FP officers. The study conducted in Kenya proved that there was a significant relationship between the quality counseling by officers and the performance of FP programs³⁸. Therefore, the capacity of FP officers needs to be improved in conducting health education.

In this study, health insurance ownership was not related to contraceptive use. This finding is different from the study conducted in Ghana stating that women who did not have health insurance were less likely to use contraception. In Ghana, health insurance ownership did not guarantee access to free contraception¹⁸. Meanwhile in Indonesia, FP services including the installation of contraceptives are covered in the National Health Insurance program through the Social Security Administrator for Health (BPJS, *Badan Penyelenggara Jaminan Sosial Kesehatan*)¹⁹. However, According to Oesman¹⁹, the use of BPJS cards for FP services was still low. This indicated that the BPJS can be involved in the promotion of FP services to increase contraceptive use.

There are several limitations of this study. Knowledge in this study does not represent a comprehensive knowledge of contraceptive methods. Further research on in-depth knowledge of contraceptive methods is necessary to be carried out. This study also found the influence of the mass media and institutions that provided FP information. However, types of mass media and institutions have not been analyzed in this study. Further research can analyze the relationship between the type of mass media and contraceptive use. Nevertheless, this study involved a large number of respondents and could

represent West Java. The results of this study are expected to be useful in policymaking and programming related to contraceptive use, especially in West Java.

Based on a study done in 2018, it was found that participants have myths like exposure to electromagnetic frequencies, consuming additives meals or food containing artificial sweeteners or genetically modified food, living near powerline, stress emotion, trauma to any parts of the body, drink from plastic bottles, usage of cleansing product, mobile smartphone, aerosol containers & microwave oven⁵. According to our research done on beliefs regarding breast cancer, about 48.4% with a frequency of 234 respondents highly belief that eating food containing additives, then about 39.5% belief eating genetically modified food and followed by eating food containing sweeteners with 39.3% might cause breast cancer. Feeling stressed also believed could be one of the factors with a percentage of 38.1%. However, many participants believe that exposure to electromagnetic with 33.7%, using a mobile phone with (20.1%) and physical trauma with (40.8%) could not be a factor causing breast cancer. The highest number of respondents, with 58.8% were not sure about using aerosol containers. This was followed by living near power lines (46.0%) and using cleaning products (44.9%). Most of the respondents (65%) are found to have poor awareness with poor belief, followed by 51.4% who have poor awareness with good belief, good awareness with good belief (48.6%) and 34.5% having good awareness with poor belief. Lastly, the association between awareness and belief regarding breast cancer was highly significant

CONCLUSION

The factors influencing contraceptive use for women of childbearing age in West Java included age, education, wealth quintile, place of residence, the number of known modern contraceptive methods, and the number of mass media and institutions that have provided FP information. This study shows that counseling on contraceptive use in women of childbearing age should be able to reach targets with various characteristics. In addition, information provision can be further enhanced through various institutions, such as formal education, non-formal education, and community organizations.

Conflict of interest

The authors declare no potential conflict of interest.

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