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ETHICAL CLEARANCE

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Komisi Etik Penelitian Kesehatan (KEPK) Fakultas Ilmu Kesehatan Universitas Muhammadiyah Pontianak, setelah membaca dan menelaah protocol usulan penelitian dengan judul:

**Faktor-Faktor yang Mempengaruhi Penggunaan Metode Keluarga Berencana Modern (MFP)
dalam Jaminan Kesehatan Nasional di Indonesia: Analisis SDKI 2017**

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Abstract

Background: Indonesia recently implemented a National Health Insurance program while simultaneously grappling with the challenge of unmet family planning needs.

Objective: This study aimed to examine the correlation between health insurance ownership and the utilization of family planning methods among married/in-union women in Indonesia.

Methods: This study employed secondary data analysis using the 2017 Indonesian Demography and Health Survey (IDHS). The analysis included a sample of 18,411 married/in-union women. Univariate, bivariate (Chi-square test), and multivariate (binary logistic regression) analyses were conducted to examine the relationship between health insurance ownership and the utilization of family planning methods.

Results: The analysis revealed that a small proportion of individuals with health insurance utilized family planning services. Several factors were found to be associated with the utilization of family planning services, including ownership of health insurance, women's age, family planning decision-maker, socioeconomic status (as measured by being in the richest quintile), and higher education attainment.

Conclusion: The findings of this study provide important insights for policymakers and public health practitioners regarding the integration of national health insurance programs and family planning initiatives in Indonesia. It is crucial to address the low utilization rate of family planning services among those with health insurance. Future research should focus on fostering collaboration among all stakeholders to promote comprehensive education on freely accessible contraceptive methods, aiming to bridge the gap between policy implementation and effective utilization of family planning services.

Keywords: modern family planning; MFP; ownership; national health insurance; IDHS; Indonesian

Background

National health insurance is a right and responsibility of all citizens. According to regulation number 19 in 2016, health insurance is a guarantee in the form of health protection for participants to obtain health maintenance and protection benefits in meeting basic health needs given to everyone who has paid the dues or the dues are paid by the government (Pemerintah Republik Indonesia, 2016). Primary health care is the health facility where family planning services can be provided (BKKBN, 2017). Family planning services can be delivered directly after delivery to prevent pregnancy, spacing the birth, and sterilization (BPJS Kesehatan, 2016).

More than 200 million women in developing countries cannot access family planning (Morgan & Wright, 2014). In developed countries, the family planning method that is mostly used are sterilization and LARCs (Long-acting reversible contraception) (Kavanaugh & Jerman, 2018). Each method has different access and availability. Family planning is crucial for advancing reproductive, maternal, and child health (Morgan & Wright, 2014). One woman can use more than one contraceptive method; as reported in the United States that 99 percent of women with sexually active use at least one method of family planning (Becker, 2018). Women's and child health is still a concern in developing countries (Tojiyeva, Z.N. et al., 2020).

Regarding some issues in the family, contraception is necessary for economic development, human rights issues, and women's health (Cole & Geist, 2021). Women of reproductive age face many potential risks due to the biological process, including pregnancy and childbearing. Women have the autonomy to plan when and how many children they want, which fundamentally may affect their health and social. The ability of women to control their fertility is representative of women's empowerment toward their roles, rights, and status (Cole & Geist, 2021). Despite traditional methods, modern use is more interesting since it includes barrier and hormonal methods, emergency contraception, and sterilization, thus high promotion in terms of rationalization, science, and global focus (Cole & Geist, 2021). In most populous Muslim countries, women remain the focus who need justice and equal positions with men (Martínez, 2017). An issue of patriarchy needs to manage well because

family planning is not the only concern of women but also husbands/ partners as well (Ibrahim, 2013).

In the Indonesian context, those who live in urban areas tend to use family planning methods because of socio-demographic factors, including services, education, income, employment, age, parity, ethnicity, and religion (Seran et al., 2020). The incidence of unmet needs of family planning methods is still high, around 10.6 percent, and is mostly influenced by the history of family planning usage (Nisak, 2021). The study using IDHS (Indonesian Demographic Health Survey) found women aged > 45 years dominantly had family planning unmet needs (Sumiati et al., 2019). A similar study related to unmet needs of family planning found contraception, maternal age, mother's education, number of children's ownership, history of child death, wealth index, province of residence, knowledge about contraceptive use, and ever used anything to delay getting pregnant were determine the unmet needs of contraceptive use (Hastuti et al., 2022). The specific study focused on the Papua region (Eastern Indonesia) and found that the factors associated with low participation in family planning methods among young married women were household expenditure and age at first sexual intercourse (Rahmadani et al., 2022).

Regarding the linkage between ownership of health insurance and family planning usage, some interesting points can be observed regarding whether women under national health insurance can access free family planning. According to the role of population and family planning affairs (BKKBN/Badan Kependudukan dan Keluarga Berencana Nasional), BKKBN had the responsibility to purchase family planning (FP) commodities in coordination with BPJS Kesehatan (National Health Insurance) (Teplitskaya et al., 2018). Services covered by primary healthcare facilities, particularly for modern family planning methods, were distinguished into capitation and fee-for-service. For the capitation, there are family planning counseling, sexual and reproductive health services, and family planning commodities such as pills and condoms. For fee-for-services, there are insertion and/or removal of IUD (intrauterine device)/implant, injectables, treatment for family planning complications, and tubectomy/vasectomy (Teplitskaya et al., 2018). Limited studies examine whether those owned health insurances tend to

choose the capitation family planning method, which is free for devices and services. This study aimed to examine the correlation between ownership of health insurance and the utilization of modern family planning methods in Indonesia.

Methods

Study Design

This study used a secondary data analysis of the 2017 IDHS. The Demographic and Health Survey (DHS) is a global survey focusing on fertility, family planning, and maternal and child health. The IDHS was implemented by Statistics Indonesia (BPS) in collaboration with the National Population and Family Planning Board (BKKBN) and the Ministry of Health (MoH) of Indonesia. The Indonesian government funded the survey, which took place from 24 July to 30 September 2017. The Intermediate Care Facilities (ICF) provides technical assistance through the DHS Program, funded by the United States Agency for International Development (USAID), and offers financial support and technical assistance for population and health surveys in countries worldwide (Ministry of Health Republic of Indonesia, 2017). Our study used IDHS, which was downloaded, cleaned, and processed in May 2023. The IDHS has been done in 34 provinces in Indonesia, with 100% representative of the Indonesian population.

Samples/Participants

The 2017 IDHS used stratified cluster-random sampling to select the sample (Ministry of Health Republic of Indonesia, 2017). The sample frame used was the Master Sample of Census Blocks from the 2010 Population Census. The samples covered 1,970 census blocks in urban and rural areas from 49,250 households. Our study only focused on all women of reproductive-aged 15 to 49 years old with marital status, specifically married and living with a partner (having active sexual activity). According to the dependent variable of this study, we only selected the women who used the modern family planning (MFP) method. After the data cleaning, the final number of participants was 18,411.

Instrument

The instrument used by IDHS 2017 was the standardized questionnaire. This current study retrieved the raw data from the DHS website without additional data collection.

Data Analysis

The study's dependent variable was the MFP method, categorized as non-capitation (0) for the method that free service in primary health care (for those who had national health insurance) that consisted of condoms and pills, another one is capitation (1) for the method that free of devices but need the service fee that consisted of injection, IUD, implant, vasectomy, tubectomy (for those who had national health insurance). The main independent variable is the ownership of national health insurance which is categorized as did not have any health insurance (0), under the national health insurance PBI (Penerima Bantuan Iuran/ Recipients of Dues Assistance) paid by the local government (1), under the national health insurance non-PBI which paid themselves (2) and had other health insurance including from private provider (3). Other variables included in the analysis were women's age, place of residence, educational level, wealth index, occupation, MFP decision maker, and husband/partner aspects, including educational level and occupational status. The data were analyzed using descriptive statistics, Chi-square, and binary logistic regression using STATA 17, licensed by Institute for Population and Social Research, Mahidol University.

Ethical Considerations

The IDHS 2017 obtained ethical clearance from the National Agency for Research and Health Development, Ministry of Health, Republic Indonesia. The raw data is available on the website <https://dhsprogram.com/data/> and is free to download after registration and received approval.

Results

Table 1 shows that the majority of the respondents used the modern family planning (MFP) method with non-capitation (78.59%). Most women of reproductive age who used the MFP had no health insurance (86.98%). Regarding the women's age, their age was mostly distributed to age 30 to 39 years old. Regarding the place of residence, the differences between urban and rural were almost equal, but those living in rural were a bit higher (51.31%). More than half graduated from secondary school (53.14%) and worked at the survey time (61.57%). Comparing the proportion within the five indexes of wealth, the highest proportion was the poorest women (22.37%). Join decision between

women and husband/partner was the most answered for MFP decision makers (58.07%). According to husband/partner aspects, more than

half of them graduated from secondary school (54.23%), and almost all of them were working at the time of the survey (99.04%).

Table 1 The general characteristics of the respondents

Variables (n = 18,411)	Frequency	Percentage
<i>Dependent variable</i>		
Modern contraceptive use		
With non-capitation	14,469	78.59
With capitation	3,942	21.41
<i>Variables of mother</i>		
Ownership of health insurance		
Not have	16,013	86.98
National health insurance (PBI)	1,504	8.17
National health insurance (non-PBI)	621	3.37
Other insurance	273	1.48
Woman's age		
15-19	282	1.53
20-24	1,633	8.87
25-29	2,821	15.32
30-34	3,767	20.46
35-39	4,164	22.62
40-44	3,551	19.29
45-49	2,193	11.91
Place of residence		
Urban	8,964	48.69
Rural	9,447	51.31
Educational level		
Not education	247	1.34
Primary	6,181	33.57
Secondary	9,802	53.24
Higher	2,181	11.85
Working status		
Not working	7,076	38.43
Working	11,335	61.57
Wealth index		
Poorest	4,118	22.37
Poorer	3,919	21.29
Middle	3,595	19.53
Richer	3,543	19.24
Richest	3,236	17.58
The family planning decision maker		
Mainly women	6,402	34.77
Mainly husband/partner	1,264	6.87
Join decision	10,682	58.07
Don't know	53	0.29
<i>Variables of husband/partner</i>		
Husband/partner's educational level		
No education	268	1.46
Primary	6,062	32.93
Secondary	9,985	54.23
Higher	2,077	11.28
Don't know	19	0.10
Husband/partner working status		
Not working	177	0.96
Working	18,234	99.04

Table 2 displays Chi-square test results, revealing that some variables correlated using MFP, such as ownership of health insurance, women's age, educational level of women, working status, wealth

index, family planning decision maker, and husband/partner educational level. However, place of residence and husband/partner working status did not correlate with the MFP method.

Table 2 The bivariate analysis of each independent variable with the modern family planning (MFP)

Variables	MFP with non-capitation		MFP with capitation		p-value
	Frequency	Percentage	Frequency	Percentage	
<i>Variables of mother</i>					
Ownership of health insurance					0.000
Not have	12,253	84.68	3,760	95.38	
National health insurance (PBI)	1,373	9.49	131	3.32	
National health insurance (non-PBI)	582	4.02	39	0.99	
Other insurance	261	1.80	12	0.30	
Woman's age					0.000
15-19	242	1.67	40	1.01	
20-24	1,375	9.50	258	6.54	
25-29	2,347	16.22	474	12.02	
30-34	3,010	20.80	757	19.20	
35-39	3,208	22.17	956	24.25	
40-44	2,671	18.46	880	22.32	
45-49	1,616	11.17	577	14.64	
Place of residence					0.286
Urban	7,015	48.48	1,949	49.44	
Rural	7,454	51.52	1,993	50.56	
Educational Level					0.000
Not education	190	1.31	57	1.45	
Primary	4,666	32.25	1,515	38.43	
Secondary	7,739	53.49	2,063	52.33	
Higher	1,874	12.95	307	7.79	
Working status					0.013
Not working	5,628	38.90	1,448	36.73	
Working	8,841	61.10	2,494	63.27	
Wealth Index					0.001
Poorest	3,217	22.23	901	22.86	
Poorer	3,083	21.31	836	21.21	
Middle	2,816	19.46	779	19.76	
Richer	2,727	18.85	816	20.70	
Richest	2,626	18.15	610	15.47	
The family planning decision maker					0.000
Mainly women	4,595	31.76	1,807	45.84	
Mainly husband/partner	1,075	7.43	189	4.79	
Join decision	8,752	60.49	1,940	49.21	
Don't know	47	0.32	6	0.15	
<i>Variables of husband/partner</i>					
Husband/partner's educational level					0.000
No school	213	1.47	55	1.40	
Primary	4,586	31.70	1,476	37.44	
Secondary	7,898	54.59	2,087	52.94	
Higher	1,757	12.14	320	8.12	
Don't know	15	0.10	4	0.10	
Husband/partner working status					0.839
Not working	138	0.95	39	0.99	
Working	14,331	99.05	3,903	99.01	

Note: ***p-value <0.001, **p-value <0.01, *p-value <0.05

Table 3 The woman and partner variables related to the modern family planning method

Variables (n = 18,411)	Model 1		Model 2	
	AOR	95% CI	AOR	95% CI
<i>Variables of mother</i>				
Ownership of health insurance				
Not have	Ref		Ref	
National health insurance (PBI)	0.30***	0.24 – 0.36	0.29***	0.25 – 3.36
National health insurance (non-PBI)	0.25***	0.18 – 0.35	0.25***	0.18 – 0.34
Other insurance	0.16***	0.09 – 0.29	0.16***	0.09 – 0.29
Woman's age				
15-19	Ref		Ref	
20-24	1.14	0.79 – 1.64	1.14	0.79 – 1.64
25-29	1.29	0.90 – 1.83	1.29	0.90 – 1.83
30-34	1.60**	1.12 – 2.27	1.61**	1.13 – 2.28
35-39	1.91***	1.34 – 2.70	1.92***	1.35 – 2.72
40-44	2.10***	1.48 – 2.99	2.11***	1.49 – 2.99
45-49	2.27***	1.59 – 3.24	2.28***	1.60 – 3.25
Place of residence				
Urban	Ref		Ref	
Rural	0.93	0.87 – 1.01	0.95	0.88 – 1.02
Educational level				
Not school	Ref		Ref	
Primary	1.09	0.79 – 1.49	1.11	0.82 – 1.52
Secondary	1.02	0.74 – 1.40	1.01	0.74 – 1.39
Higher	0.72	0.51 – 1.03	0.67*	0.48 – 0.94
Working status				
Not working	Ref		Ref	
Working	1.05	0.97 – 1.13	1.05	0.97 – 1.13
Wealth Index				
Poorest	Ref		Ref	
Poorer	0.91	0.81 – 1.01	0.91	0.81 – 1.01
Middle	0.91	0.82 – 1.02	0.91	0.81 – 1.01
Richer	1.01	0.89 – 1.12	0.99	0.88 – 1.11
Richest	0.84*	0.74 – 0.96	0.81	0.71 – 0.92
The family planning decision maker				
Mainly women	Ref		Ref	
Mainly husband/partner	0.49***	0.41 – 0.58	0.48***	0.41 – 0.57
Join decision	0.59***	0.55 – 0.64	0.59***	0.55 – 0.64
Don't know	0.40*	0.17 – 0.96	0.40*	0.17 – 0.95
<i>Variables of husband/partner</i>				
Husband/partner's educational level				
No school	Ref		-	
Primary	1.22	0.89 – 1.68		
Secondary	1.14	0.83 – 1.57		
Higher	0.98	0.69 – 1.39		
Don't know	1.05	0.33 – 3.41		
Husband/partner working status				
Not working	Ref		-	
Working	1.01	0.70 – 1.46		

Note: ***p-value <0.001, **p-value <0.01, *p-value <0.05

Model 1 (Log likelihood = -9121.6428, LR chi2(26) = 880.33, prob>chi2 = 0.000, Pseudo R2 = 0.0460)

Model 2 (Log likelihood = -9125.8617, LR chi2(21) = 871.89, prob>chi2 = 0.000, Pseudo R2 = 0.0456)

The binary logistic regression result in **Table 3** was tested to examine the correlation between all independent variables, especially the ownership of

health insurance and other control variables, which were distinguished into two models. Model 1 is the full model consisting of mother and husband/partner

aspects, and Model 2 only consists of mother aspects.

In Model 1, it was found that those who are members of National Health Insurance (NHI) PBI (Penerima Bantuan Iuran/ Recipients of Dues Assistance) had a 70% probability to don't using the MFP method with capitation compared to those who had no NHI after adjusted with other independent variables. Furthermore, women who had NHI non-PBI increased 75% probability to don't using the MFP, and women who had other insurance had an 84% probability. The odds between Model 1 and Model 2 were almost similar.

In terms of the women's age, increasing women's age (30-34, 35-39, 40-44, and 45-49) is increasing the odds (1.60, 1.91, 2.10, and 2.27, respectively) of using MFP with capitation after adjusting to all independent variables comparing to women aged 15 to 19 years old. The adjusted odds ratio for women's age variable between Model 1 and Model 2 seems similar. According to the variable of the MFP decision maker, it was found husband/partner as a decision maker, joint decision (women and husband/partner), and "don't know" was 0.49, 0.59, and 0.40 times less likely to use MFP with capitation comparing with women as the main decision maker after adjusted to all independent variables. Between Model 1 and Model 2, there was no significant difference adjusted odd ratio.

Moreover, in Model 1, it was found that the richest women were 0.84 less likely to use MFP with capitation. In Model 2, it was found that women who graduated from secondary school were 0.67 times less likely to use MFP with capitation. To decide the best model, it was not significantly different between Pseudo R² in Model 1 and Model 2. In detail, Pseudo R² was 0.0460 and 0.0456, which was not significantly different, so adding the variables of husband was not affect the correlation between ownership of health insurance and MFP method use.

Discussion

The study results found that the main predictors are ownership of the family planning method, family planning decision-makers, and women's age. Not many studies focused on the correlation between health insurance and family planning method. For

the capitation, all the devices and services were free, but fee-service means the devices are free, but the services need to pay. This is an issue because the implementation of family planning services will be provided by health care under the investigation and evaluation from BPJS Kesehatan or Health Social Security Agency. However, the family planning devices are provided by BKKBN or Population and Family Planning Affairs. Local government involvement is also diverse because some provinces give free devices and services (insertion and removal process), but others do not. In this study, those with health insurance were less likely to choose the capitation method, meaning they used their own money for contraceptives even though they had health insurance.

Regarding women's age, older women tend to use the capitation method, mostly consisting of short-term contraceptives. It might be due to the simple process of short-term contraception because getting older will lead women to make everything simple and easier. The family planning decision maker is a woman, and the husband/partner joins, so it was less likely to use the capitation family planning method. They tend to use non-capitation, which consists of long-term contraceptives. The decision to choose non-capitation instead of capitation might be due to the effectiveness of the long-term method. According to the two models constructed, the variables of the husband contributed to the models, but the impact is not that high.

Previous studies reported that health insurance claims for the short-term contraceptive method were higher than for long-term contraceptives (Becker, 2018). Similar findings were revealed in France that long-term contraceptives are rarely used compared to short-term ones (Agostini et al., 2018). It was reflected that the majority of owners of health insurance utilized the short-term contraceptive that capitation or, in other words, there is no fee needed to pay in primary health care. Another study brought the community health insurance scheme (local level), which improved family planning services (Fakunle et al., 2014). The finding from the previous study was a bit different because the current research focused on national health insurance, but the results revealed the significant impact of health insurance in general on providing family planning services. Unfortunately, this study only focused on married/in-union women; in Indonesia, family

planning was targeted at married ones. However, the study in the United States reported the low-cost or even free services of family planning for teenagers (Packham, 2017). One study in the United States also reported that 4 percent of the birth rate declined after conducted the contraceptive insurance mandates (Dills & Grecu, 2017). The usage of contraceptives was diverse for those who use national and private health insurance, and owners of national health insurance tend to use contraceptive services compared to those who use private (Kavanaugh et al., 2020). In the United States, in 2012, there was the Patient Protection and Affordable Care Act (ACA), one private health insurance covering the contraceptive device for free. However, it was not effective because the insurance at the state level was mandated for contraceptives already (Mulligan, 2015). Supporting the previous studies, it was found that most of the long-term contraceptive method users have paid by themselves (Broecker et al., 2016). There are some differences in the implementation of family planning services in developed and developing countries. In an aging society, the biggest concern of the government is older people because adult of reproductive age is very independent, including accessing health and family planning services (Maretalinia & Suyitno, 2022).

In general, the study findings shed light on the factors that influence the utilization of modern contraception methods in the context of national health insurance. From a public health perspective, this research can provide recommendations on how to align national health insurance programs with family planning initiatives. This alignment would enable individuals seeking modern contraceptives to easily access them through their national health insurance coverage. Moreover, regional governments can actively participate in this endeavor. For example, the government of Jakarta Capital Special Region has introduced an additional health insurance program called the "Kartu Jakarta Sehat" or "Healthy Jakarta Card" to support the national health insurance program.

Furthermore, this study has the potential to foster collaboration among stakeholders in the nation's public health efforts. Various aspects of public health, including administration, health policy, and reproductive health, are addressed in this study. By addressing these aspects, the research can

contribute to the development of collaborative programs that benefit public health as a whole.

Conclusion

The utilization of the capitation family planning method among those who owned health insurance was found to be significantly low. Despite having health insurance, women often opted for family planning methods that were not fully covered by their insurance, requiring them to pay out-of-pocket fees. Several factors were found to be associated with the utilization of the capitation family planning method, including ownership of health insurance, women's age, the decision-maker for family planning, being the richest, and graduating from higher school. To gain a more comprehensive understanding, future studies should delve into the specific roles played by BPJS Kesehatan (Health Social Security Agency) and BKKN (Population and Family Planning Affairs) in promoting and facilitating access to the capitation family planning method. By examining these roles in greater detail, researchers can identify potential barriers and opportunities for improvement in the utilization of this method, leading to more effective strategies for family planning and improved healthcare outcomes.

Declaration Conflicting Interest

The authors declared no competing interest.

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Author Contribution

M, HR, and S obtained and analyzed the data and developed the topics. LA, ES, and LS contributed to the study's conceptualization and design. All authors critically reviewed the manuscript and took part in the discussion part. All authors read and approved the final manuscript to be published.

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