Women's Membership in Health Insurance and Correlation with Contraception Use in Indonesia

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Abstract

Background and Purpose: One important effort in reducing the Maternal Mortality Rate is integration of Family Planning services into Health Insurance policy. This is giving affordability in health service financing through providing contraceptive accordance with established policy. The purpose of this study is to examine women's participation in health insurance and correlations to contraception use.

Material and Methods: The study used the 2012 Indonesian Demographic and Health Survey data-set. Samples were women aged 15 to 49 years, of married status or living together (n=33,465). The dependent variable was contraception used for three categories: Using Long Term Contraceptive, using non-Long Term Contraceptive, and not using any kind of contraception. Data analysis used Chi-square and multinomial logistic regression with complex sample.

Results: 10.6% of women were found to have used a Long Term Contraception method. Health insurance membership has correlations to contraceptive use (OR=1.241 and 0.964, $p<0.05$, CI 95%), with confounder variables of age ($p<0.05$, OR=1.428 and 0.648), education ($p<0.05$, OR=1.402 and 1.064), work status ($p<0.05$, OR=1.151 and 0.966), parity ($p<0.05$, OR=3.114 and 1.685), perception of ideal number of children ($p<0.05$, OR=2.057 and 1.682), husband's education ($p<0.05$, OR=0.166 and 0.920), husband's work ($p<0.05$, OR=1.247 and 2.469), and role of media ($p<0.05$, OR=1.255 and 1.084).

Conclusion and Recommendations: This study was empirical evidence in Indonesia that health insurance factors have a significant correlation to Long Term Contraceptive use in women. It is recommended for government to maintain and improve policies that integrate Family Planning services into National Health Insurance.

Keywords: health insurance, contraception, family planning, long term contraceptive, multinomial logistic regression

1. Introduction

The problem of national health until now is still high in population health indicators such as Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR), 359 per 100,000 live births and 32 per 1,000 live births respectively. According to data from the World Health Organization (WHO, 2013), these rates are still considered high compared to other ASEAN countries. The rates are also still far from the target of 2015 Millennium Development Goals (MDGs).

The efforts to decrease MMR and IMR are harder challenges to conquer, compared to other MDGs targets, and can no longer be done by general intervention. Breakthroughs and improvements of cross-sector collaboration are required to chase the reduction of MMR to reach MDGs targets. One of the important efforts is to improve public access by giving affordability in health service financing. Government's policy is Family Planning (FP) services integrated with Health Insurance policies through providing equipment and materials of contraception, and providing treatment for side effects and complications by *Badan Kependudukan dan Keluarga Berencana Nasional* (BKKBN)-National Population and Family Planning Board-as appropriate with established policy.

In order to support the decrease of MMR and IMR to accelerate the achievement Goals 4 and 5 of MDGs, the Ministry of Health has run several programs integrated to FP service, such as *Jaminan Persalinan (Jampersal)*-a

program that provides free antenatal, delivery, and postnatal services to pregnant women without health insurance and free childcare for the newborn baby-in 2011. The implementation concept was by demand side so that the participants who use the health insurance can receive FP service both postpartum and after miscarriage. Through *Jampersal,* contraception such as Long Term Contraceptive (LTC) Method, Intra Uterine Devices (IUD), implants and injectables are provided free of charge. Contraception and supporting facilities of FP services are provided by BKKBN (Ministry-of-Health, 2011, 2013)

In the beginning of 2014, *Jaminan Kesehatan Nasional* (JKN)-National Health Insurance-was started to be implemented. This policy was strengthened FP service where in JKN, it was stated clearly that one of the benefits of promotive and preventive services was the allocation of FP services including counselling, basic contraception, vasectomy and tubectomy (Ministry-of-Health, 2013).

People participation could be seen from the ability in accessing FP services. The Contraceptive Prevalence Rate (CPR) was one of FP program indicators, which was expected to increase 65% in 2015 (for modern method). The modern method has not shown improvement in the last ten years. The 2007 Indonesian Demographic and Health Survey (IDHS) showed CPR was 57.4% while in the 2012 IDHS, CPR was 57.9%. This could be suspected to contribute to the high amount of MMR. Thus, there was a need to study factors contributing to contraception use (BKKBN, 2014a; Mujiati, 2013).

There was not much enough information related to the association of health insurance policy implementation with the selection of contraception used by women in Indonesia. Thus, this study has tried to know the information by using data from the 2012 IDHS. The purpose of this study was to analysis participation of health insurance and its association with the use of contraceptive methods of women in Indonesia. Information about factors contributing to the use of contraception is very much needed for FP program administrators. The result of this study is expected to be useful as an information resource in running and integrating health insurance policy and FP services so that it can be expected to improve the FP program in the future.

2. Materials and Methods

2.1 Research Subject

The research design was cross sectional using secondary data from the results of the 2012 IDHS. Research locations were in all provinces in Indonesia. The population was women of childbearing age, aged 15 to 49 years, who had been successfully interviewed in the 2012 IDHS, a total 45,607 women. The sample was women of childbearing age, aged 15 to 49 years, currently married or living together, n=33,465 women (weighted), 32,706 women (unweighted). The sample was chosen based on the criteria of variable recent marital status (V501), married or living together.

Contraception use behaviour is one example of health behaviour. Based on theory from Lawrence W. Green (Green & Kreuter, 1991) and information from other research, it was known that factors influencing one's health behavior are predisposing factors, enabling factors, and reinforcing factors.

2.2 Measurements

The dependent variable was contraception used for three categories: Using LTC (Code 0), using non-LTC (Code 1), and not using any kind of contraception (Code 2). The Long Term Contraceptive consisted of female sterilization, male sterilization, IUD and implants, while non-LTC consisted of pills, injectables, condoms, periodic abstinence, withdrawal (coitus interruptus), lactational amenorrhea (LAM), and other traditional and modern methods.

The primary independent variable is covered by health insurance. Since the purpose of this research is to compare women who have health insurance to women who do not, the code given in the multinomial regression analysis is 0 for women with health insurance, and 1 for women without health insurance (because it is risky to not use contraception).

2.3 Statistical Analysis

Processing and analysis of data were conducted using SPSS version 21, including univariate, bivariate (Chi-Square) and multivariate (multinomial logistic regression) analysis. Multinomial logistic regression analysis is a multivariate analysis in which the dependent variable is nominal polychotonom categorical scale variable (Dahlan, 2014; Hosmer & Lemeshow, 2000; Kleinbaum & Klein, 2010).

Data analysis conducted interaction test to the complete model (Hierarchically Well Formulated Model). The variables have a significant association with contraception use if p value<0.05 (Hastono & Sabri, 2013). The selection was conducted step by step through the backward elimination system. After that, the confounding test

was conducted by looking at the difference of Odds Ratio (OR) value for the main variable if the candidate's confounding variable was expelled. If the change of OR>10% then the variable was considered as confounding.

3. Results

Based on this study it was found that the majority of women used non-LTC (51.3%), while women using LTC was as much as 10.6%. The number of women who did not use any kind of contraception was still high about 38.1% (see Table 1).

Tabel 1. The percentages of contraceptive use on women aged 15 to 49 years based on 2012 IDHS

Contraceptive use	The number of women	
	n= 33,465	%
Non use	12,761	38.1
Use Non-LTC	17,163	51.3
Use LTC	3,541	10.6

Based on further analysis, it was found that the use of contraception of the majority of respondents was injectables (31.9%), pills (13.6%), IUDs (3.9%), implants (3.3%) and women sterilization (3.2%).

Bivariate analysis shown that all of independent variables had $p<0.05$ which means if it was analyzed on each variable, there would be correlation with contraception use of women (aged 15 to 49 years with status of married or living together), see Table 2.

Based on Table 2 it was shown that of women without health insurance 9.3% used LTC, while of women with health insurance 12.8% used LTC. From this data it is shown that p value=0.0001 (p<0.05) so it can be concluded that there is an association between those covered by health insurance and contraceptive use.

It is shown that the higher age groups are more likely to be using LTC, 1.5% for women aged 15 to 19 years, and 14.9% for women aged more than 35 years. As well, highly educated women prefer using LTC (16.1%) compared to the less educated (8.3%). Women with the richest status were more likely using LTC (16.0%) than women with poorest status (7.9%).

Table 2. The proportion of contraceptive use according to some variables of women characteristics

Variable	Contraceptive Use (%)			p
	Non use	Non-LTC	LTC	
Health insurance				
Non membership	38.2	52.5	9.3	0.0001
Membership	38.0	49.2	12.8	
Age				
15 to 19 years	51.9	46.6	1.5	
20 to 35 years	36.0	56.8	7.2	0.0001
>35 years	39.8	45.3	14.9	
Education				
No education	56.6	35.2	8.3	
Completed primary	38.2	52.2	9.6	0.0001
Completed secondary	35.4	54.2	10.2	
More than secondary	44.2	39.6	16.1	
Employment status				
Unemployed	37.4	53.4	9.3	0.0001
Employed	38.7	49.7	11.5	
Husband's education				
No education	53.3	36.3	10.4	0.0001
Completed primary	37.8	53.0	9.2	

Completed secondary	36.7	52.9	10.4	
More than secondary	42.3	40.9	16.8	
Husband's employment				
Not employed	55.8	30.1	14.1	0.0001
Employed	37.8	51.7	10.5	
Number of children				
0 to 2	40.3	52.2	7.5	0.0001
≥3	34.1	49.7	16.2	
Perception about ideal number of children				
≥3	43.4	46.7	9.9	0.0001
0 to 2	33.8	55.1	11.1	
Wealth Index				
Poorest	43.8	48.3	7.9	
Poorer	35.7	55.0	9.3	
Middle	36.1	54.3	9.6	0.0001
Richer	37.0	53.1	9.8	
Richest	38.7	45.4	16.0	
Residence				
Rural	38.4	52.0	9.6	0.011
Urban	37.9	50.5	11.6	
Role of media				
None	39.6	50.8	9.6	0.001
Yes	36.6	51.8	11.6	
Visited by FP fieldworkers				
None	38.5	51.1	10.4	0.001
Yes	32.6	53.8	13.6	
Exposured from religious leaders				
None	38.2	51.3	10.5	0.014
Yes	33.0	51.2	15.8	

Next the final model (Table 3), showed that the variable of 'covered by health insurance' had a significant correlation with use of contraceptive method, both on the group of women using LTC and non-LTC (p=0.0001, OR=1.241 and 0.964), controlled by variables: age (OR=1.428 and 0.648), education (OR=1.402 and 1.064), job (OR=1.151 and 0.966), number of children born (OR=3.114 and 1.685), perception about ideal number of children (OR=2.057 and 1.682), husband's education (OR=0.166 and 0.920), husband's job (OR=1.247 and 2.469), and role of media OR=1.255 and 1.084).

The contribution of the 'covered by health insurance' variable to the use of contraception on women aged 15 to 49 years was 7.0% (rated by using *pseudo-R* seen from Nagelkerke). This means that health insurance covered can explain its association with the use of contraception as much as 7.0%.

From this model, it can be interpreted that women having any health insurance were more likely to use LTC 1.241 times more than women without health insurance. Also women who had any health insurance more were 0.964 times more likely to use the non LTC method than women without health insurance, after control by variables of age, education, parity, perception about ideal number of children, job status, husband's education, husband's job, and the role of media.

Table 3. Final model of multinomial logistic regression analysis

Contraception Type	Variable	Coefficient	OR	(CI 95%)
	Have any Health Insurance	0.216	1.241	1.098-1.404
	Age 35 and older	0.356	1.428	1.230-1.658
	Education junior high school and higher	0.338	1.402	1.207-1.630
	Number of children ≥3	1.146	3.114	2.717-3.638
	Perception about ideal number of children <2	0.721	2.057	1.804-2.346
Using LTC	Status of respondent works	0.141	1.151	1.020-1.300
	Husband's education junior high school and higher	0.154	1.166	0.999-1.361
	Husband works	0.221	1.247	0.864-1.799
	Role of media exists	0.227	1.255	1.104-1.427
	Constants	-3.140	0.043	0.029-0.065
	Have any Health Insurance	-0.037	0.964	0.893-1.039
	Age 35 and older	-0.433	0.648	0.597-0.704
	Education junior high school and higher	0.062	1.064	0.968-1.169
	Number of children ≥3	0.522	1.685	1.541-1.843
	Perception about ideal number of children <2	0.520	1.682	1.557-1.817
Using Non LTC	Status of respondent works	-0.035	0.966	0.896-1.042
	Husband's education junior high school and higher	-0.083	0.920	0.842-1.006
	Husband works	0.904	2.469	1.856-3.284
	Role of media exists	0.081	1.084	1.010-1.161
	Constants	-0.840	0.432	0.321-0.581

Note. Reference category is not using contraception.

4. Discussion

In this research, a trend is seen that older women are more likely to use LTC. This is consistent with further analysis of the IDHS data (BKKBN, 2014b) that LTC (except implants) was most used by women aged 45 to 48 years, while implants were most used by women aged 35 to 39 years (4.1%). It is shown that there is an association of 'health insurance cover' with contraception use. This is consistent with research at Cirebon Regency (Chotimah, 2011) that health insurance cover is significantly associated with FP participation.

From the number of parity, it can be seen that on women having three or more children, more used non-LTC than LTC (49.7% to 16.2% respectively). This needs attention because on that condition it could be suggested to use LTC, contrary to research in Eastern Cape, South Africa (Stephenson, Beke, & Tshibangu, 2008), that women with five or more children prefer LTC over injectables. But it was still better than in the rural area of North Malawi (Dasgupta, Zaba, & Crampin, 2015), where there are still many women with parity five or more children not using contraception at all (41.6%). At least women in this group can use the IUD method which has potential to improve women's health and has the ability to spacing and limiting birth to costs that are affordable (Townsend & Jacobstein, 2007).

At Ile Ife hospital, Nigeria with grand multipara incidents (having many children) of 9.04% only about 77% of women want to use contraception in the future. This data explains that there are still many women who need better contraception for better life quality starting from the first pregnancy until the time before grand multipara. This can be solved by conducting education about permanent methods of contraception. Education becomes the catalyst for positive change, and cuts off the chain of poverty (Adebanjo, Adeyemi, Loto, Ijadunola, & Asa, 2011).

On unemployed women, majority has used non-LTC (53.4%), and there was a trend that employed woman prefers to use LTC (11.5%) to unemployed (9.3%). It was different based on all methods, based on the research in Bangladesh (Sultana, Nahar, Marions, & Oliveras, 2013) that of women using contraception (all methods) the majority are not workers (62%). In Iran (Motlaq, Eslami, Yazdanpanah, & Nakhaee, 2013), all methods of contraception are used more by women who work at home (81.8%).

This research has shown the likelihood of LTC use to be higher with with women in urban than rural areas (11.6% to 9.6% respectively), while non-LTC was higher in rural than urban (52.0% to 50.5% respectively). This

can be compared with research in Iran (Motlaq et al., 2013), that contraception use, if assesed for all methods, tends to be higher in rural (84.5%) than urban (82.1%) areas.

Women with a highest wealth index use LTC the most (16%) compared to other wealth groups, (middle group 9.6%, poor group 9.6%). Similarly with research in the Eastern Cape were more wealthier women prefer to use permanent contraception than women with poorer status (Stephenson et al., 2008).

Similiarly this research, shown that the socio-demographic factors significantly associated with contraception use are age, education, wealth index, parity, ethnicity, age at first pregnancy, source of information, and covered by health insurance as health service factors which take effect (Chotimah, 2011; Ivanty, 2014; Paskaria, 2012). Based on one study (Ivanty, 2014), many of the source accepted by participant related to family planning method was by family or peer discussion (53.8%), but only 25% from health workers, while mass media (pamphlets and posters) was only 8.6%.

Factors known to have an association with the use of contraception were: age, area of residence, education, parity, and wealth index (BKKBN, 2014b), while based on the study in Uganda, it is known that the key factors associated with the use of modern contraception of early married women aged 15 to 24 were area of residence and the decision of having a child, meanwhile on women aged 25to 34 significant factors associated with the use of contraception are level of education, household spending and the decision of having child (Asiimwe, Ndugga, Mushomi, & Manyenye Ntozi, 2014; Asiimwe, Ndugga, & Mushomi, 2013). Therefore, women's health improvement strategies must be comprehensively based on health determinants, which specifically address the socio-economic and cultural obstacles (AbouZahr, 2014).

4.1 Implication of Policy Based on the Result of Research

Since this survey was conducted the 2012 IDHS, health financing policy covering contraception services has been implemented including *Jampersal,* and several other health insurances although limited. *Jampersal* policy gave limited FP service which was more directed to service for postpartum and miscarriage. Furthermore it remained to be continued and developed in *JKN* at 2014, which showed programme improvement. Participants can utilize the FP service on the health facilities of first level and advanced provider (hospital) which have agreement with *JKN*.

The Government's attempt has been appropriate, where participant of *Jampersal* were all of the targets who had no health insurance. A limitation in its implementation was that the service provided was only postpartum (women giving birth until 42 days postpartum). The purpose was to push participants to use postpartum FP services.

Many challenges in the implementation became tasks which had to be solved by policy makers and programme planners to strengthen the policy system and make the service accessible by everyone. Lack of funds became the biggest obstacle in reach the health goal (Singh, Darroch, Ashford, & Vlassoff, 2009). Research result in North East Province, Kenya and Northern Uganda stated that the higher proportion was of women using modern contraception if the method was available or existed around the service area (Wang, Wang, Pullum, & Ametapi, 2012).

By the information from this research, government can compile interventions addressed to improve the participation rate in family planning by compiling programmes related to those factors, such as socializing FP services through media of which many are accessed by women nowadays. It can be mass media like newspapers and women's magazines or electronic media like television and the internet by utilizing social networks for example *Facebook*®.

The socializations can be conducted more aggressively to the age group with slight use of contraception like women in the group aged 35 and older. There are still many women who have not graduated from elementary school who do not use contraception, 684 persons (56.6%). Thus, intervention can be composed through cross-programmes by improving mothers' education through informal education programmes, like "*Kejar Paket A*" programme or others.

The reduction of fertility and population growth becomes an important part in developing countries nowadays. Evidence in Asia and Africa suggest that family planning access can affect fertility. Family planning programmes can reduce fertility as in Bangladesh and Ghana. The reduction of fertility is associated with improvement in women's health, income, and work participation. Parents can invest more funds and time to health, nutrition, and education when they have less children (Canning & Schultz, 2012). Family planning promotion in countries with high birth rates potentially reduce poverty and hunger, and prevent 32% of all maternal mortality and almost 10% of infant mortality (Cleland et al., 2006).

5. Conclusion and Recommendations

The results of this research become empirical evidence that nationally, the 'having health insurance' variable has a significant association with the use of contraception methods by women aged 15 to 49, both in LTC and non-LTC method (p=0.0001, OR=1.241 and 0.964), controlled by variables of age, education, job, number of children gave birth (parity), perception about ideal number of children, husband's education, husband's job, and role of media. Thus, the policy of integrated FP service in health insurance programmes has been appropriately run by the government, by providing tools/ methods of contraception free of charge.

Based on this study, it is recommended for government to maintain and improve this policy, especially in the LTC method so that the number of women participating in FP is expected to improve every year. The Ministry of Health, BKKBN, and the Public Health Office together with their staff, must improve the cooperation and socialization so FP and reproduction health programs can be implemented continuously. Support from health workers can be a booster so that women would use appropriate contraception for their needs. By socialization, it is expected to improve public awareness in FP and finally reduce MMR and IMR.

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Competing Interests Statement

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