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Factors Associated with Independent National Health Insurance Ownership among Reproductive Aged Women in Indonesia

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Abstract

Background: Indonesia has been aiming toward universal health coverage since 2019, but it has yet to be achieved. The National Health Insurance (NHI) program provides individual services for women of reproductive age who require health care before pregnancy, during pregnancy, and at the time of labor. This study aims to analyze factors associated with independent NHI ownership among women of reproductive age in Indonesia.

Methods: Secondary data from the Wave 5 Indonesia Family Life Survey (IFLS) involving 2,084 women of reproductive age were used. The chi-square test and logistic regression test were used for data analysis.

Results: The percentage of women of reproductive age who have independent NHI was 48.4%. Age, region, residence, education, marital status, employment status, chronic disease history, health perception, and economic status were associated with the independent NHI ownership. Urban was found to be a predictor for insurance ownership.

Conclusions: Women of reproductive age who live in urban areas are more likely to have NHI than those in rural areas. The Indonesian government should improve NHI ownership equality by expanding health insurance coverage in rural areas.

Keywords: health insurance, Indonesia, reproductive age, women

INTRODUCTION

Universal Health Coverage (UHC) is one of the Sustainable Development Goals formulated by the World Health Organization.[1] At the individual level, UHC includes financial risk protection and improvement of access and utilization of healthcare to enhance overall population health and well-being. The government must play a significant role to achieve UHC.[2] Many lower- and middle-income countries, such as Indonesia, are currently reforming their health-financing mechanism as part of comprehensive strategies to achieve UHC through increased tax-sourced funding, national mandatory schemes, or private health insurance schemes.[3]

The implementation of National Health Insurance (NHI) presents unique challenges. Indonesia, a rapidly developing middle-income country, has 262 million residents from 300 ethnic groups and 730 languages spread across 17,774 islands. The Indonesian government aims to achieve UHC by the end of 2019. Toward the end of 2014, the UHC system was introduced and expanded by covering 203 million people.[4] The number of people who registered in this program had risen to 221.6 million, accounting for 83.94% of the population as of May 2019.

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The Financial Sustainability of Indonesia's NHI has four primary segments of membership which are: government contribution beneficiaries, paid workers, nonpaid workers, and unemployed people.[5] If successfully implemented, NHI will be the world's largest single-payer system. Well-provided healthcare services are a measure of a successful community development through the implementation of public health programs.[6]

As a health-financing mechanism, health insurance may improve access to health care and provide financial protection.[7] It facilitates financial access to health services, including prenatal and preconception care.[8] In Indonesia, women of reproductive age use NHI to cover the cost of childbirth, as indicated by the 79.3% of childbirth in health facilities and the 93.1% of health workers who aided during childbirth.[9] The benefit of health insurance is improved universal access to delivery care services among women.

Previous studies have explored factors that significantly affect the NHI participation of women of reproductive age. Age, education, occupation, socioeconomic status, and employment status were significant on the NHI participation of reproductive age groups.[10–13] The factors that significantly influence health insurance participation are gender, education, age, marital status, and health status.[14] Women with education are more likely to use health insurance during the first treatment of pregnancy and delivery in health facilities.[15] One of

the benefits of NHI membership is independent NHI among nonpaid workers: self-employed, seasonal, and other informal sector workers who do not receive regular pay.

Although UHC has been studied extensively worldwide, studies that explored the early implementation on independent NHI ownership among women of reproductive age in Indonesia remain limited. Understanding how independent NHI ownership might impact the efforts toward expanding UHC in Indonesia. This study aims to analyze factors associated with independent NHI ownership among women of reproductive age in Indonesia.

METHODS

Ethical approval

This study was conducted in accordance with the guidelines anchored in the Declaration of Helsinki by the approval by the Ethical Committee of Faculty of Public Health, Sriwijaya University. Permission letter to use the secondary data was obtained from the Indonesia Family Life Survey (IFLS).

Study design and setting

Cross-sectional data were collected from the 2014 Indonesian Family Life Survey (IFLS) (Wave 5). The data collection was done by the RAND corporation collaborated with Indonesian researchers. The survey was carried out using a multistage stratified sampling design, selecting a sample of households representing around 83% of the Indonesian population in 13 of 27 provinces. The collected data include place of residence, use of health and education facilities at individuals, their families, and household levels. More information about the setup and available data can be found online (*https://www.rand.org/well-being/social-and-behavioral-policy/data/FLS/IFLS.html*) and in the research by Strauss J, *et al*.[16] A total of 2,084 women aged 15–49 were selected as the sample size.

Dependent variables and independent variables

Independent NHI ownership as a dependent variable is divided into two categories: "Yes" and "No." Education level was the respondent's acknowledgment of the last education divided into three categories, namely, "primary/no education," "secondary," and "higher." The categories of the place of residence are "rural" and "urban." Marital status is grouped into "unmarried," "married," and "other." Region is categorized into "Sumatra," "Java & Bali," and "Eastern Regions." Eastern regions are spread across seven provinces, namely, East Nusa Tenggara, East Kalimantan, Southeast Sulawesi, Maluku, North Maluku, West Papua, and Papua. Employment status is categorized as "employed" and "unemployed." Perception of health is grouped into "healthy" and "sick." The chronic disease history is classified as "Yes" and "No." Age categories comprise "15–19 years," "20–35 years," and "36–49 years." Economic status is defined as the amount of household expenditure for the cost of food consumption, non-food costs for equipment and the needs of household members, education, and utilities. The economic status is grouped on the basis of monthly expenditure (Q1 = poorest quintile; Q2 = poor quintile; Q3 = average quintile; Q4 = rich quintile, and Q5 = richest quintile).

Data analysis and management

The variables were first summarized with descriptive statistics (N, percentages). Univariate data analysis was carried out, and the chi-square was used to test 10 dichotomous variables, namely, NHI ownership, age, education level, job status, marital status, economic status, region, place of residence, health perception, and history of chronic illness. The chi-square tests identified whether a statistically significant relationship exists between the independent variables and independent NHI ownership. Then, a multivariate analysis was conducted using a logistic regression test. The analysis was completed through the SPSS 23 software.

RESULTS

The statistical descriptions of the respondents' demographics are presented in Table 1. Only almost half of the total respondents (48.4%) have independent NHI. Most of the respondents are aged 36–49 years (53%), live in urban areas (54.6%), have secondary education (45.6%), are employed (57.5%), perceive themselves as healthy (79.1%), have the richest economic status (27.5%), have no chronic disease (89.3%), are married (72.9%), and live in Java and Bali regions (79.2%). Table 1 also exhibits whether the independent variables have an association with NHI ownership. Six variables were correlated ($p \leq 0.05$) with NHI ownership in women of reproductive age. These include age, place of residence, education, history of chronic disease, employment status, and health perception. Those unrelated to NHI ownership among women of reproductive age are region, marital status, and economic status ($p \geq 0.05$).

Table 2 demonstrates the results of the final model of the multivariate analysis. Variables significantly associated with NHI ownership among women of reproductive age are age, region, place of residence, education level, marital status, employment status, history of chronic disease, and health perception. Based on the analysis, the most dominant variable affecting NHI ownership is place of residence with a PR value of 1.416 (95% CI: 1.210–1.657). Thus, women of reproductive age who live in urban areas had a 1.4 times greater chance of having NHI than those in rural areas (95% CI: 1.210–1.657).

DISCUSSION

This study analyzed factors associated with NHI ownership among women of reproductive age in Indonesia on the basis of Wave 5 IFLS. In the early implementation of the NHI in 2014, 48.4% among women of reproductive age had independent NHI. This proportion is larger than the study in Nigeria with only 2.1% accounting for women who have health insurance coverage.[10] Meanwhile, a study in Ghana reported that 66% among women of reproductive aged women were covered by health insurance.[17]

The UHC promotes health and well-being through good access to quality health care services to extend life expectancy.[18] Health insurance minimizes the risk of out-of-pocket health expenditure among women who seek maternal healthcare services.[17] NHI significantly impacts the utilization of maternal healthcare services.[19]

Reproductive health is defined as having a healthy sexual life and reproductive functions in a safe environment.[20] Baros mentioned[14] that women are more vulnerable to health problems than men, and thus women are more likely to have health insurance. Age affects NHI participation, especially among women of reproductive age. However, those who are aged 35 years and above are more likely to use health facilities because aging is more susceptible to health problems.[10]

TABLE 1. Association between independent variables and national health insurance ownership (N = 2,084)

Variable	n (%)	NHI Ownership				*p*
		Yes	%	No	%	
Age						
15–49 years	107 (5.1)	36	33.7	71	47	ref
20–35 years	874 (41.9)	388	44.4	486	55.6	<0.001***
36–49 years	1,103 (53)	585	53	518	47	<0.001***
Region						
Eastern regions	173 (8.3)	79	45.6	94	54.4	ref
Sumatera	261 (12.5)	117	44.7	144	55.3	0.802
Java and Bali	1,650 (79.2)	813	49.3	837	50.7	0.099
Place of residence						
Rural	945 (45.4)	414	43.8	531	56.2	ref
Urban	1,139 (54.6)	595	52.2	544	47.8	<0.001***
Education						
Primary/No education	793 (38.1)	380	47.8	414	52.2	ref
Secondary	950 (45.6)	416	43.8	534	56.2	<0.001***
Higher	341 (16.3)	213	62.6	127	37.4	<0.001***
Marital status						
Unmarried	239 (11.5)	98	41.2	140	58.8	ref
Married	1,519 (72.9)	760	50	760	50	0.091
Others	326 (15.6)	151	46.3	175	53.7	0.113
Chronic disease						
No	1,861(89.3)	882	47.4	979	52.6	ref
Yes	223 (10.7)	127	56.8	96	43.2	<0.01**
Health Perception						
Healthy	1,648 (79.1)	777	47.2	871	52.8	ref
Sick	436 (20.9)	232	53.2	204	46.8	<0.01**
Economic status						
Poorest	339 (16.2)	169	50	169	50	ref
Poor	383 (18.4)	178	46.4	205	53.6	<0.01**
Average	400 (19.2)	196	48.9	205	51.1	0.287
Rich	389 (18.7)	172	44.2	217	55.8	0.085
Richest	573 (27.5)	294	51.4	279	48.6	0.561
Employment status						
Unemployed	885 (42.5)	383	43.3	502	56.7	ref
Employed	1,199 (57.5)	626	52.2	573	47.8	<0.001***

Note: chi-square test; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

TABLE 2. Factors associated with independent national health insurance ownership among women of reproductive age (N = 2,084)

Variable	*p*	PR	(95% CI)
Age			
15–49 years	ref		
20–35 years	<0.001***	0.682	0.588–0.790
36–49 years	0.099	0.712	0.475–1.067
Education level			
Primary/No education	ref		
Secondary	<0.001***	0.429	0.353–0.521
Higher	<0.001***	0.476	0.385–0.589
Marital status			
Unmarried	Ref		
Married	<0.01**	1.388	1.153–1.672
Others	0.270	0.835	0.606–1.151
Chronic disease			
No	ref		
Yes	0.061	1.224	0.991–1.513
Health perception			
Healthy	ref		
Sick	<0.05*	0.817	0.697–0.959
Employment status			
Unemployed	Ref		
Employed	<0.001***	1.332	1.139–1.558
Place of residence			
Rural	ref		
Urban	<0.001***	1.416	1.210–1.657

Note: Logistic regression test
*$p < 0.05$
**$p < 0.01$
***$p < 0.001$
Ref: reference; PR: prevalence ratio; CI: confidence interval.

The place of residence is associated with independent NHI ownership. Women who live in urban areas significantly have a higher likelihood of independent NHI ownership than those in rural areas. Communities in rural areas have fewer treatment options given that most service providers reside in urban areas. With unlimited benefit packages, payments are made on the basis of available health facilities.[21] High disparities between urban and rural areas are often caused by centralized economic activities and development in one particular area. These two aspects commonly occur in urban areas.[22]

In Nigeria, a factor that significantly influences NHI participation among women of reproductive age is education. Education can increase the community's awareness in using health services. Moreover, a relationship exists between NHI ownership and education of women of reproductive age in Indonesia. Education is a significant predictor of enrollment to the NHI scheme.[23,24] Baros[14] pointed out that education influences a person decision to have health insurance. People with middle or high education are more likely to participate in NHI because they are more knowledgeable about health and disease prevention programs compared with those with low education.[12]

A significant relationship exists between marital status and health insurance ownership. In this study, married women had 1,684 are more likely to have health insurance than unmarried women. Health insurance ownership was highest among divorcees and lowest in those unmarried.[14]

In Nigeria, NHI participation among women of reproductive age was affected by employment; workers in formal sectors use NHI because they can share their income to use health insurance.[10] Sampeluna[25] unveiled that5 workers use more health services at hospitals than non-workers. In addition to employment, income affects purchasing power and types of services.

An individual with monthly income will be motivated to utilize hospital health services because they can afford better healthcare and pay monthly contributions or premium insurance packages. Employment, which allows people to earn money to meet their health needs, may impact health knowledge.[10]

People aged between 45–54 with low socioeconomic status are more likely to develop degenerative diseases that lead to death.[26] In line with Idris's study,[27] predictors for subsidized health insurance ownership schemes among workers in formal sectors were influenced by symptoms of chronic diseases.

In addition to economic levels, complaints or perceptions of health are related to health insurance ownership. People who experience more symptoms of disease are more likely to have health insurance. People who perceive themselves sick are more likely to use healthcare and vice versa. People with severe diseases have higher medical costs than those with a mild diseases.[28] Income affects people's willingness to participate in the NHI program. Economic status plays an important role in the utilization of health services. Lower economic status means fewer healthcare options. In Ghana, people with high economic status are likely to use health insurance than people with middle-low income.[29–31] Health insurance aims to provide financial protection and improve access to healthcare service.[32]

This holds some limitations. This cross-sectional survey has some constraints to identify a causal mechanism of health insurance ownership through few variables, such as independent NHI ownership, age, region, economic status, history of chronic disease, health perception, education, place of residence, region, and marital status.

Other variables warrant further analysis. Moreover, this study lacks data on the amount of health insurance premium packages, types of employment, and frequency of health facility visits. Further studies are required to investigate others factor and their influence on independent NHI ownership of women.

CONCLUSIONS

Independent NHI ownership is affected by age, education, history of chronic disease, and health perception. Women of reproductive age who live in urban areas are more likely to have NHI than those in rural areas. To improve NHI ownership, the government should expand health insurance coverage to rural areas.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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