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

Ika Putri Widiarti*, Haerawati Idris*

Faculty of Public Health, Sriwijaya University, South Sumatera 30862, Indonesia

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. 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. 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.

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. 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.

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. 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.

As a health-financing mechanism, health insurance may improve access to health care and provide financial protection. It facilitates financial access to health services, including prenatal and preconception care. 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. 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. The factors that significantly influence health insurance participation are gender, education, age, marital status, and health status. Women with education are more likely to use health insurance during the first treatment of pregnancy and delivery in health facilities. 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.15 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.” 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, 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 using 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 ≤ 0.05) with NHI ownership in women of reproductive age. These include age, place of residence, education, economic status, 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 ≥ 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. Meanwhile, a study in Ghana reported that 66% among women of reproductive aged women were covered by health insurance.

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

Reproductive health is defined as having a healthy sexual life and reproductive functions in a safe environment. Baros mentioned 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.

| 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
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. 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.

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.

Baros' 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.

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.

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. Sampeluna unveiled that 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.

People aged between 45–54 with low socioeconomic status are more likely to develop degenerative diseases that lead to death. In line with Idris's study, 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 disease. 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. Health insurance aims to provide financial protection and improve access to healthcare services.

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.

ACKNOWLEDGMENT

We express our gratitude toward the RAND organization for giving free access to the data.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

FUNDING

This study did not acquire any funding support.

Received: January 5, 2022 | Accepted: March 31, 2022

REFERENCES

1. United Nations. Transforming our world: The 2030 agenda for sustainable development. New York: USA; 2015.
2. Tangcharoensathien V, Mills A, Palu T. Accelerating health equity: The key role of universal health coverage in the Sustainable Development Goals. BMC Med. 2015;13:101.
3. Goudge J, Alaba OA, Govender V, Harris B, Nxumalo N, Chersich MF. Social health insurance contributes to universal coverage in South Africa, but generates inequities: survey among members of a government employee insurance scheme. Int J Equity Health. 2018;17:1.
4. Agustina R, Dartanto T, Sitompul R, Susiloretni K, Achadi E, Taher A, et al. Universal health coverage in Indonesia: Concept, progress, and challenges. Lancet. 2019;393:76–102.
5. Shreeshant PAD, Thomas F, Megan G. Financial Sustainability of Indonesia's Jamilah Kesehatan Nasional: Performance, Prospects, and Policy Options. Washington, DC: Palladium, Health Policy Plus, and Jakarta, Indonesia: Tim Nasional Percepatan Penanggulangan Kemiskinan (TNP2K); 2019.
6. Rumengan DS, Umboh J, Kandou G. Factors related to the utilization of health services for BPJS health participants at the Paniki Bawah Public Health Center, Mapanget District, Manado City. Jurnal Ilmu Kesehatan Masyarakat Unsrat. 2015;5:88–100.
7. Nguyen HT, Hatt L, Islam M, Sloan NL, Chowdhury J, Schmidt J-O, et al. Encouraging maternal health service utilization: An evaluation of the Bangladesh voucher program. Soc Sci Med. 2012;74:989–96.
8. Kozhimannil KB, Abraham JM, Virnig BA. National trends in health insurance coverage of pregnant and reproductive-age women, 2000 to 2009. Women Health. 2012;22:e135–41.
9. Indonesian Ministry of Health. Basic health Research Report 2018. Jakarta: Indonesian Ministry of Health, 2018.
10. Arebleshola BS, Khan SM. Predictors of enrolment in the National Health Insurance Scheme among women of reproductive age in Nigeria. Int J Health Pol Manag. 2018;7:1015.
11. Kamniki EW, Babaw AA, Akazili J, Awoonor-Williams JK, Kassak K. Moving towards universal health coverage: An assessment of unawareness of health insurance coverage status among reproductive-age women in rural northern Ghana. Lancet Glob Health. 2018;6:532.
12. Amu H, Dickson KS. Health insurance subscription among women in reproductive age in Ghana: Do socio-demographics matter? Health Econ Rev. 2016;6:1–8.
13. Ameyaw EK, Ahinkorah BO, Baatiema L, Seidu A-A. Is the National Health Insurance Scheme helping pregnant women in accessing health services? Analysis of the 2014 Ghana demographic and Health survey. BMC Preg Childbirth. 2021;21:1–8.
14. Baros WA. Factors affecting health insurance ownership analysis of Susenas data 2013. Jurnal Kebijakan Kesehatan Indonesia. 2015;4:20–5.
15. Wang W, Temsah G, Mallick L. Health insurance coverage and its impact on maternal health care utilization in low-and-middle-income countries. USA: ICF International; 2014.
16. Strauss J, Witoelar F, Sikoki B. The fifth wave of the Indonesia family life survey: Overview and field report. RAND: Santa Monica, USA; 2016.
17. Ekhluuentale M, Barrow A. Inequalities in out-of-pocket health expenditure among women of reproductive age: After-effects of national health insurance scheme initiation in Ghana. J Egypt Pub Health Assoc. 2021;96:1–14.
18. Kiency MP, Bekedam H, Devlo D, Fitzgerald J, Habicht J, Harrison G, et al. Strengthening health systems for universal health coverage and sustainable development. Bull World Health Org. 2017;95:537.
19. Wang W, Temsah G, Mallick L. The impact of health insurance on maternal health care utilization: Evidence from Ghana, Indonesia and Rwanda. Health Pol Plann. 2017;32:366–75.
20. Kusmiran E. Reproductive health of adolescents and women. Jakarta: Salemba Medika; 2011.
21. Yandrizal Y, Suryani D, Anita B, Febriawati H. Analysis of factors associated with Independent National Health Insurance among women of reproductive age in Nigeria. Int J Health Pol Manag. 2017;14:1015–22.
22. Laksono AD, Wulandari RD, Soedirham O. Urban and rural disparities in hospital utilization among Indonesian adults. *Iran J Pub Health*. 2019;48:247.
23. Amo T. The national health insurance scheme (NHIS) in the Dormaa municipality, Ghana: Why some residents remain uninsured? *Global J Health Sci*. 2014;6:82.
24. Owusu-Sekyere E, Chiaraah A. Demand for health insurance in Ghana: What factors influence enrollment? *Am J Pub Health Res*. 2014;2:27–35.
25. Balqis B, Sampeluna N, Hamzah A. Factors related to the utilization of health services at the Lakipadada Hospital, Tana Toraja Regency. *Jurnal Administrasi dan Kebijakan Kesehatan Indonesia*. 2013;2:8223.
26. Handajani A, Roosiermatie B, Maryani H. Factors related to the pattern of death in degenerative diseases in Indonesia. *Buletin Penelitian Sistem Kesehatan*. 2010;13:21301.
27. Idris H, Satriawan E, Trisnantoro L. Determinant of health insurance ownership in the informal sector: A panel study from Indonesia family life survey. *Adv Sci Lett*. 2017;23:3582–5.
28. Nugraheni WP, Hartono RK. Analysis of outpatient health service patterns in the first year of implementation of the National Health Insurance Program (JKN). *Media Penelitian dan Pengembangan Kesehatan*. 2017;27:9–16.
29. Djunawan A. Is it true that the health insurance subsidy increases the utilization of primary health services by the urban Poor. *Jurnal Kebijakan Kesehatan Indonesia*. 2019;8:18–24.
30. Adams R, Chou Y-J, Pu C. Willingness to participate and Pay for a proposed national health insurance in St. Vincent and the grenadines: A cross-sectional contingent valuation approach. *BMC Health Ser Res*. 2015;15:1–10.
31. Kumi-Kyerema A, Amo-Adjei J. Effects of spatial location and household wealth on health insurance subscription among women in Ghana. *BMC Health Ser Res*. 2013;13:1–8.
32. RamPrakash, Rajalakshmi, Lingam L. Why is women’s utilization of a publicly funded health insurance low?: A qualitative study in Tamil Nadu, India. *BMC Pub Health*. 2021;1:21.