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HEALTH INSURANCE OWNERSHIP TO INCREASE THE UTILIZATION OF PRIMARY HEALTH SERVICES IN RURAL HIGHLANDS

Yudi Adnan[1*], Syahrul Basri[1], Munawir Amansyah[1], Zilfadillah Arranury[1]
Public Health Department, Faculty of Medicine and Health Science, UIN Alauddin Makassar, 841879, Indonesia

** Corresponding author:*

Email: yudi.adnan@uin-alauddin.ac.id

ABSTRACT

Background: Access to adequate health services remains a global challenge, especially in rural and remote areas. Health insurance ownership has emerged as a solution to increase the utilization of health services.
Objectives: This study aimed to explore the role of health insurance ownership in increasing the utilization of primary health services in rural highland areas in Indonesia.
Methods: This research used a quantitative design with a cross-sectional survey method. The study population consisted of 728 adult individuals who were heads of households living in Kanreapia Village, Tinggi Moncong District, Gowa Regency, South Sulawesi. The sampling technique used purposive sampling. Data were collected through interviews with a structured questionnaire, including demographic variables, health insurance ownership status, and utilization of health services. Data analysis used descriptive statistics, chi-square tests, and logistic regression.
Results: The results showed a significant relationship between demographic variables, health insurance ownership, and the utilization of health services. Individuals with health insurance were 6.764 times more likely to utilize health services compared to those without insurance ($p<0.001$).
Conclusion: This study strengthens the evidence that health insurance ownership significantly increases an individual's likelihood of utilizing health services, especially in relatively isolated rural areas.

Keywords: ***Health Access, Health Insurance, Highland, Rural, Utilization of Health Services***

INTRODUCTION

Access to health services plays an important role in improving the health status of the people in a country. The availability of health services is especially important at a time of global health crises, such as the COVID-19 pandemic and outbreaks of diseases such as monkeypox and cholera. This situation confirms how important it is to have a health care system that is accessible to everyone [1]. Efforts to ensure equitable access to basic health

services can make a major contribution to improving public health [2–5].

However, access to adequate health services remains a global challenge that continues to be faced, especially in rural and remote areas. Although efforts have been made to improve the availability and affordability of health services, disparities in utilization remain a major issue. Recent empirical evidence shows that disparities in the use of health services still occur, especially among the poor in rural and remote areas. The study in China highlighted the inequalities in maternal health care utilization based on factors such as place of residence, education level, and income [6]. Similarly, research in Northeast India revealed that cultural beliefs, financial constraints, and perceptions influence health-seeking behavior, resulting in a significant proportion of deliveries taking place at home [7]. In Nigeria, interactions with public health workers were associated with increased intentions to use modern contraceptives among rural women, demonstrating the importance of leveraging those contacts for family planning initiatives [8]. In addition, research in India shows significant differences in maternal and child health care utilization based on caste and economic status, underscoring the challenges in achieving equitable access to health services [9]. These findings collectively emphasize the need for targeted interventions and policy adaptations to address persistent disparities in health care utilization among underserved populations in rural and remote areas.

Health insurance emerged as a solution that could solve this problem. Previous studies have emphasized the important role of health insurance ownership in facilitating access to needed health care [10–12]. At the global level, the World Health Organization (WHO) has affirmed that health insurance can help reduce the risk of financial stress for households and facilitate access to necessary health services.

In Indonesia, efforts have been made through increasing the number of private-based health care facilities and the implementation of the national health insurance policy (BPJS), which has contributed to increasing the utilization of health services [13,14]. Nevertheless, demographic factors such as age, education and occupation of the population as well as health insurance ownership in relatively isolated rural areas, such as highlands, need to be further explored to understand the dynamics of health care utilization and develop appropriate strategies in improving access.

This study offers an important contribution by exploring the role of health insurance ownership in improving the utilization of primary health services in highland rural areas in Indonesia. By choosing Kanreapia Village, Tinggi Moncong District, Gowa Regency, South Sulawesi, as the research location, this study represents the characteristics of a relatively geographically isolated highland rural area. The findings of this study are expected to provide valuable insights into the factors that affect the use of health services in the region, as well as appropriate strategies to improve health access for people in rural highland areas.

METHODS

This study uses a quantitative research design with a cross-sectional survey method. This approach was chosen to describe the influence of health insurance ownership and demographic status such as age, education, and occupation on the increase in the utilization of health service facilities in rural highland areas.

For the purposes of this study, utilization of health services was defined as any visit to a primary health care facility within the past 12 months. This includes consultations, preventive care, diagnostic

tests, or treatments received at local health centers, clinics, or hospitals. There was no minimum frequency required; a single visit within the past year qualified as utilization.

The study population consisted of adult individuals (aged 18 years and above) with the status of heads of households living in Kanreapia Village, Tinggi Moncong District, Gowa Regency, South Sulawesi, Indonesia, which is a mountainous area. The estimated population is 728 people.

The sampling technique used is purposive sampling, where all individuals who meet the inclusion criteria will be included in this study. This approach was chosen to ensure the representativeness and generalisability of the research results to the target population.

Data were collected through direct interviews using structured questionnaires.

The structured questionnaire used in this study was developed specifically for this research based on a review of relevant literature and consultation with local health experts. The questionnaire underwent pilot testing with a sample of 30 participants from a similar rural highland area to ensure clarity and cultural appropriateness. The internal consistency of the questionnaire was assessed using Cronbach's alpha, yielding a value of 0.82, indicating good reliability.

This questionnaire is designed to cover relevant variables, such as demographic variables, health insurance ownership status and utilization of health service facilities.

The collected data was analyzed using descriptive statistical methods to describe the characteristics of the sample and the frequency of use of health care facilities. Furthermore, the chi square test was used to see the relationship between demographic variables and the status of health insurance ownership with the utilization of health services and a simple logistic regression test was used to test the influence between health insurance ownership and health service utilization.

RESULT

The following is an explanation of the results of the analysis related to the research question.

Table 1. Respondent's Characteristic Information

Variable	Utilization of health facilities						p-value
	Utilize		Not Utilizing		Total		
	n=452	%	n=276	%	n=728	%	
Age							
Young	380	52,2	261	35,9	641	88,0	<0,001
Old	72	9,9	15	2,1	87	12,0	
Education							
Higher	77	10,6	0	0,0	77	10,6	<0,001
Lower	276	37,9	135	18,5	411	56,5	
Uneducated	99	13,6	141	19,4	240	33,0	
Occupation							
Officer	10	1,4	0	0,0	10	1,4	0,005
Non-Officer	396	54,4	253	34,8	649	89,1	
Unemployed	46	6,3	23	3,2	69	9,5	
Health insurance ownership							
Covered	254	34,9	44	6,0	298	40,9	<0,001
Uncovered	198	27,2	232	31,9	430	59,1	

Based on table 1, which describes the respondents' information and also lists the results of the chi-square test, it can be seen that the utilization of health facilities is related to several demographic and socioeconomic variables. In general, the young group has a higher proportion of using health facilities (52.2%) compared to the old group (9.9%).

Age was categorized into four equal intervals: 18-34 years, 35-51 years, 52-68 years, and 69 years and above. This categorization allows for a more nuanced analysis of age-related patterns in health service utilization.

The education variable is also related to the use of health facilities, where respondents with lower education and uneducated tend to use it more (37.9% and 13.6% respectively), compared to those with higher education which only reached 10.6%. In terms of employment, the majority of those who are Unemployees (54.4%) use health facilities more than Officer (1.4%).

However, the most significant variable related to the utilization of health facilities is the ownership of health insurance. Respondents who have health insurance have a higher proportion of using health facilities (34.9%) compared to those who do not have health insurance (27.2%). The results of the statistical test showed that all variables had a p < value of 0.05, indicating a significant relationship between these variables and the utilization of health facilities.

Table 2. Results of the Coefficient of Determination Test on the Influence of Health Insurance Ownership on Health Service Utilization

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	842.909[a]	.156	.212

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

The results in table 2 show that the value of the Nagelkerke R Square Test shows a value of 0.212 or 21.2%, this value shows the contribution of the variable of Health Insurance Ownership as an independent variable in influencing the Utilization of Health Services as a dependent variable, thus 21.2% is influenced by other variables that are not included in this study. This influence is considered quite good, because it is a moderate percentage or exceeds 50%.

Table 3. Results of Logistics Regression Test on the Influence of Health Insurance Ownership on Health Service Utilization

Variable	Utilization of Health Facilities			
	p-value	AOR	95% CI	
			Lower	Upper
Health Insurance Ownership	<0,001	6,764	4,663	9,812

Based on table 3, it can be seen that logistic regression analysis indicates a significant influence of the Health Insurance Ownership variable on the utilization of health facilities, with a p < value of 0.001 and an Adjusted Odds Ratio (AOR) of 6.764 (95% CI: 4.663 - 9.812). This shows that individuals who have health insurance have a 6,764 times higher chance of availing of health services compared to those who do not have health insurance.

DISCUSSION

Overall, the data in table 1 indicate that factors such as age, education, employment, and especially health insurance ownership relate to an individual's decision to avail of health services. The results of this study strongly support the argument that demographic and socioeconomic factors significantly affect access and utilization of health services.

Studies like those in rural Senegal [15], Sub-Saharan African countries [16] and lower-middle-income countries [17] shows that variables such as age, education, and quantile wealth play an important role in determining health-care-seeking behavior and the likelihood of utilizing health facilities. In addition, factors such as health insurance ownership, as highlighted in the Almutairi et al [18]. study, consistently correlate with higher levels of utilization of health facilities. These findings underscore the importance of considering demographic and socioeconomic factors when designing policies to improve access to health services, as seen in the research of Lee et al. [19] and Jirathananuwat [20], to address disparities and improve overall health outcomes.

The data in table 3 showing that individuals with health insurance have a 6,764 times higher chance of availing of health services compared to those without health insurance provide a significant picture of the important role of insurance ownership in access and utilization of health services. This is reinforced by the finding that respondents who have health insurance have a higher proportion of using health facilities compared to those who do not have health insurance and the results of the Nagelkerke R Square Test of 0.212 which shows that 21.2% of the use of health services is influenced by the variable of health insurance ownership.

These findings are consistent with the literature that has highlighted that access to health insurance not only increases a person's likelihood of getting the health care they need, but it can also reduce the cost burden that may be a barrier for individuals to access such services. Several studies have shown that health insurance coverage has a positive impact on an individual's likelihood of seeking necessary healthcare services [10–12]. Additionally, having health insurance can significantly reduce out-of-pocket health payments and devastating health expenses, thereby reducing the financial burden that can prevent individuals from accessing health services[21,22]. Additionally, research shows that children with health insurance show better overall health outcomes compared to those without insurance, emphasizing the important role of health insurance in improving health status, especially among vulnerable populations such as children [23]. These collective findings underscore the importance of expanding health insurance programs to improve healthcare access and affordability for individuals, ultimately contributing to improved health outcomes and reduced financial pressure.

The findings of this study also support a broader argument about the important role of public health policies in improving access to health services across all segments of society. By demonstrating the real positive effects of health insurance ownership on service utilization, these results reinforce the importance of initiatives such as universal health insurance or public health insurance in ensuring equal access. Achieving equitable access to health services is not only a normative goal, but also a proven strategy to improve the health of the population as a whole. By embracing policies that promote health insurance ownership, governments can effectively lower financial and non-financial barriers to accessing health care, especially for underserved populations.

The implications of these findings can be a strong basis for developing more

inclusive health policies, by expanding the reach of health insurance to more individuals. These measures can potentially increase public access to quality and timely health services, thereby supporting efforts to improve the overall health of the population.

Nonetheless, it is important to remember that health insurance ownership is only one of the factors that affect healthcare utilization. Other factors such as the availability of competent health human resources, adequate health infrastructure, and geographical accessibility also play an important role [20,22,24]. Therefore, efforts to improve access to health services must be carried out holistically, by integrating various strategies such as increasing health insurance ownership, investing in health infrastructure, and improving the quality of health workers. This comprehensive approach will ensure that the diverse barriers to accessing healthcare can be effectively addressed, thereby increasing the chances of individuals obtaining the healthcare services they need.

Additionally, it is worth noting that these results also underscore the importance of looking at variability in health insurance design, including coverage, premiums, and benefits, playing an important role in influencing individuals' feelings of protection and motivation to take advantage of the healthcare services provided by their insurance [25]. Factors such as the existence of a comprehensive health insurance system, the deductible rate, and the type of insurance plan chosen can affect the level of healthcare utilization [26]. For example, individuals with complementary health insurance plans may be less likely to share health-related data, highlighting the influence of insurance factors on decision-making [27]. And, the consistency of health insurance-related characteristic effects, such as annual deductible rates and supplemental insurance, underscores the importance of tailoring insurance scheme designs to optimize healthcare utilization. Understanding these nuances in health insurance design is essential for promoting equitable access to care and improving overall health outcomes.

Limitations and Future Research Directions

This study has several limitations that should be considered. First, the cross-sectional design limits our ability to establish causal relationships between health insurance ownership and health service utilization. Future longitudinal studies could provide stronger evidence of causality. Second, the study was conducted in a single rural highland area, which may limit generalizability to other regions or contexts. Multi-site studies across diverse rural settings could offer more comprehensive insights. Third, our definition of health service utilization did not account for the quality or appropriateness of care received.

Future research should incorporate measures of care quality and health outcomes. Additionally, qualitative studies exploring the perceptions and experiences of rural residents regarding health insurance and service utilization could provide valuable contextual information to complement these quantitative findings. Finally, investigating the specific features of health insurance plans that most effectively promote utilization in rural highland areas could inform policy refinements to maximize impact.

CONCLUSION

This research makes an important contribution to the literature that links health insurance ownership with the use of health services. By corroborating the evidence that health insurance ownership significantly increases an individual's chances of taking advantage of health services, these findings strengthen the argument to support policies that promote universal access to health insurance as a strategic step in improving the health and well-being of society as a whole.

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