THE UTILISATION OF OUTPATIENT SERVICES BY HYPERTENSIVE ELDERLY INDIVIDUALS IN INDONESIA

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Abstract

Demographic transition presents a significant challenge to the world. People experience longer life because the aging population is increasing rapidly. Organizations of integrated care for older people confirmed that the elderly were more prone to being victims of chronic diseases and serious issues. Factors related to the utilization of outpatient services generally have been explored, but there are limited studies on the elderly with hypertension. This study aims to analyze the elderly population using outpatient services for hypertension, in Indonesia. The cross-sectional study is used as the study. We obtained data from the Indonesian Family Life Survey (IFLS) in 2014. There were 2,308 elderly. Bivariate analysis was using chi-square, and multivariate analysis using multiple logistic regression. It was found that 24.1% of the elderly with hypertension used outpatient services. Variables significantly associated with the utilization of outpatient services were gender, insurance status, health status, economic status, the number of chronic diseases, marital status, self-limited activity, and region. The main predictor of the utilization of outpatient services is the number of chronic diseases. In conclusion, the number of chronic diseases was significantly influenced among the elderly with hypertension by using outpatient services. More effort by the government is needed to expand the policy of promotion and prevention in chronic diseases.

Keywords**:** Elderly, Outpatient, Hypertension, Utilization

Introduction

Demographic transition presents a significant challenge to the world. Nowadays, the aging population is increasing rapidly. The number of people aged ≥ 60 was more than the number of children under five years old in 2020. In 2050, about 80% of the elderly will live in low and middle-income countries. Indonesia is at the sixth rank in the Southeast Asia, about 8.6%, with a high prevalence of older people from 13 countries (1). The percentage of older people in Indonesia will increase to 19.2% in 2050 (2). The main difficulties people face around age 60 are decreased ability to hear, see, and move. These also make them more prone to getting diseases (3). Chronic diseases that may appear in the elderly are heart disease, stroke, chronic breathing problems, diabetes, and musculoskeletal conditions. Organizations of integrated care for older people confirmed that the elderly were more prone to being victims of chronic diseases and serious issues (4).

The World Health Organization (WHO) identified that cardiovascular issues are first caused by hypertension, resulting in much death globally (5). Accurate diagnosis is essential because the global burden for hypertension fund is estimated to reach 1.56 billion in 2025 (6). Over the last two decades, hypertension has become the leader of chronic diseases (7). Basic Health Research (Riskesdas) Indonesia in 2018 showed that increasing hypertension is prevalent in Indonesia. It was diagnosed and measured in people aged ≥ 18 years old by paramedics, which showed 34.1% of hypertension prevalent in 2018 (8). Based on Indonesia's Sample Registration System (SRS) data in 2016, around 5.8% of hypertension complications accounted for the cause of death in every generation (9). Hypertension kills around eight million people yearly, and 1.5 million deaths happen in Southeast Asia, where one third of the population contracts hypertension (10).

A high level of hypertension prevalence was not in line with the number of outpatient arrivals. Attractively, 40.35% of the elderly cured self-medicate, 25.57% took outpatient services, and inpatient hospitalization was 4.15% (11). Andersen's utilization type of health services was chosen by a predisposing factor, enabling factor, and need factor. The number of chronic diseases, socioeconomic status, and self-rated health were factors related to utilizing outpatient services (12-16). A study at Yamoransa, Ghana, showed

that education, wage, and insurance status influenced the utilization of elderly outpatient services (17). Indonesia showed that using elderly outpatient services is significantly connected to socioeconomic status, insurance status, region, number of chronic diseases, and self-rated health (18). The capability of using outpatient services influenced the access to public fund health services (19).

In a previous study, Madyningrum explored study about factors associated with outpatient service among the elderly in Indonesia—limited studies about this topic among older people with hypertension. The government needs to increase healthcare utilization among the elderly. This study aims to determine factors associated with using elderly outpatient services with hypertension in Indonesia.

Materials and Method

Study design

This study used a quantitative analytical design with a cross-sectional approach. We used secondary data from Indonesia Family Life Survey (IFLS) in 2014. Respondents of the survey were from 13 provinces in Indonesia. The survey used multistage random sampling as a technique for collecting data. The population of the study was elderly age ≥ 60 years. The sample of the study selected based inclusion and exclusion of the research. Inclusion criteria were those aged 60 and have hypertension history. We refer to hypertension history based on questionnaire from IFLS (20). Exclusion criteria are based on missing data and respondents answering, 'do not know.'

Operational definition

The utilization of outpatient services was shown by the responses of the elderly who wanted to take outpatient services in a public or private hospital, public health center (PUSKESMAS), clinics, and paramedics. Outpatient care use was scored 'yes' if the individual reported having visited a public hospital, public health center (Puskesmas), private hospital, clinic, health worker, or doctor's practice or had been visited by a health worker or doctor for outpatient care in the past four weeks. The variable was scored 'no' if this was not the case.

Andersen's utilization type of health services was chosen by a predisposing factor, enabling factor, and need factor. In this case, the predisposing factors were gender, education level, region, and marital status. Gender was divided into two categories, namely "Female" and "Male". Education formed three types, namely "low", "middle", and "high". The location showed "urban" and "rural". Marital status told "Married" and "other" which consisted of never married, separated, divorced, widow/er, and cohabitate. Regions submitted include "Sumatera", "east of Indonesia", and "Java and Bali".

Enabling factors spoke about economic status and insurance status. IFLS said that the proxy of the respondent economic status was regular expulsion for food or non-food and monthly education. It could be counted by dividing housing expulsion to people at home, showing the respondent's economic status based on quantity. Personal consumption expenditure is divided into five categories (quartile). The categories were "richest" was q5 (the highest), "rich" was q4, "middle rich" was q3, "poor" was q2, and "poorest" was q1 (lowest). Elderly health insurance had two categories: "Yes" and "No." Health insurance response were Asuransi Kesehatan (ASKES), Asuransi tenaga kerja (ASTEK JAMSOSTEK), employer-provided health insurance and clinic, private health insurance, insurance by saving activation, Jaminan kesehatan masyarakat (JAMKESNAS) and Jaminan kesehatan daerah (JAMKESDA).

Health status, number of chronic diseases, and physical activity were needed. '*In general, how is your health*?" was a question used to determine elderly conditions by answering "very healthy", "somewhat healthy", "somewhat unhealthy" and "and unhealthy". Chronic disease categories were "≥ 2 chronic diseases", "1 chronic disease", and "0 or no chronic diseases". The number of chronic diseases was categorized into 12 groups: rheumatic, assimilation diseases, diabetes mellitus, cholesterol, heart diseases, stroke, asthma, chronic lungs, kidney diseases, tuberculosis, liver, and cancer. The physical activity was "limit" and "no limit".

We used bivariate data analysis, chi-square, and multivariate data analysis to examine logistic regression. A 95% confidence interval (CI) was used to report the percentage of the odds ratio (OR). All analyses were performed using SPSS for windows version 23.

Results

The data received was from the Indonesia household life survey among the elderly with hypertension aged ≥ 60 from 14 provinces in 2014. The distribution of the frequency factor that influenced the utilization of elderly with hypertension in Indonesia is shown in Table 1.

Table 1: Frequency distribution of characteristics among elderly with hypertension in Indonesia

Variable	N = 2,308	
	n	%
Outpatient visit		
Yes	557	24.1
No	1,751	75.9
Independent variable		
Gender		
Female	1,323	57.3
Male	985	42.7
Location		
Urban	1,139	49.4
Rural	1,169	50.6

Table 1: Frequency distribution of characteristics among elderly with hypertension in Indonesia (continued)

Variable	N = 2,308	
	n	%
Educational rate		
High	100	4.3
Middle	329	14.2
Low	1,879	81.4
Health Insurance Status		
Yes	1,057	45.8
No	1,251	54.2
Health perception status		
Unhealthy	91	3.9
Somewhat unhealthy	791	34.3
Somewhat healthy	1,147	49.7
Very healthy	279	12.1
Economic status		
q5 (the highest)	380	16.4
q4	344	14.9
q3	381	16.5
q4	484	21
q5 (lowest)	719	31.2
Number of chronic diseases		
≥2	298	12.9
1	557	24.1
0	1,453	62.9
Marital status		
Married	1,307	56.6
Other	1,001	43.4
Physical Activity		
Limit	673	29.1
No limit	1,635	70.9
Region		
Java and Bali	1,861	80.6
Sumatera	273	11.8
East of Indonesia	174	7.6

Based on Table 1, only a quarter (24.1%) of the total respondents engaged the outpatient services. Most of them were female (57.3%), lived in villages (50.6%), low education level (81.4%), no health insurance (54.2%), somewhat healthy (49.7%), low-income level (31.2%), had no chronic diseases (62.9%), married (56.6%), no limitation in physical activity (70.9%) and live in the region of Java and Bali (80.6%).

Table 2 shows the result of the elderly with hypertension who used outpatient services based on the study of bivariate characteristics. Nine variables (p-value < 0.05) were significantly associated with the utilization of elderly with hypertension who used outpatient services. They were gender, location, education, insurance, health, economic, number of chronic diseases, physical activity, and region. Its correlated variable is the marital status (p-value > 0.05)

Table 3 shows the analysis of the Multivariate variables significantly associated with outpatient utilization, namely gender, health insurance status, self-rated health, economic status, number of chronic diseases, marital status, limitation of daily activity, and region. Based on the analysis, the dominant variables influencing outpatient service utilization are the number of chronic diseases after being controlled by gender, insurance status, health insurance perception, economic status, marital status, physical activity, and region.

Discussion

This study aims to analyze the utilization of elderly outpatient services for hypertension in Indonesia. In Indonesia, outpatient care services are provided mainly by doctors in public hospitals, public health centers, private hospitals, and private clinics (18). Based on this research, 24.1% of the elderly with hypertension used outpatient services. Our finding was lower than that found in China (54.9%) (21) and Ghana (78.61%) (22). The statistical examination shows that gender, insurance status, perception of health status, economic status, number of chronic diseases, marital status, limit in physical activity, and region significantly contribute to the utilization of outpatient services. Based on the research, the most dominant variable influence is the number of chronic diseases after being controlled by another variable.

Healthcare needs will differ between females and males. We found that elderly females are more prone to using outpatient services than males. Females are more prone to contract chronic conditions such as hypertension. It aligns with research results in Indonesia, and women are more susceptible to hypertension than men (23). Sometimes marital status helps determine their access to health services. In some cultures, a family or couple has a significant role in deciding on medical care (24).

Insurance status is connected to a higher level of the utilization of elderly outpatient services because it can eliminate financial resistance to utilizing medical services. The elderly with hypertension and health insurance use outpatient services 28.4%, but the elderly with hypertension and no health insurance as 20.5%. In this case, economic status reflects the utilization of outpatient services. People with higher economic status present a stronger desire for qualified health services and facilities. Hence, those on a lower economic level can only pay based on their affordability. Those with a high economic status find it easier to access outpatient services. Nowadays, Indonesia provides national health insurance/Jaminan Kesehatan Nasional (JKN) to offer equal access to health services. This system uses social insurance that can reduce direct payment by individuals using their own pocket

Table 2: Association between independent variable with the utilization of elderly outpatient services with hypertension

Variable	Outpatient services				P-value	OR (95% CI)
	Yes	%	No	%		
Gender						
Female	355	26.8	968	73.2	< 0.001	1.312 (1.210-1.422)
Male	202	20.5	783	79.5		
Location						
Urban	305	26.7	834	73.3	< 0.001	1.240 (1.154-1.334)
Rural	252	21.5	917	78.5	< 0.001	
Educational status						
High	28	28.4	72	71.6	< 0.001	1.327 (1.088-1.618)
Middle	96	29.1	233	70.9	< 0.001	1.375 (1.217-1.554)
Low	432	23	1447	77		
Health Insurance Status						
Yes	300	28.4	757	71.6	< 0.001	1.381 (1.311-1.455)
No	257	20.5	994	79.5	< 0.001	
Health status						
unhealthy	33	36.2	58	63.8	< 0.001	4.252 (3.450-5.240)
Somewhat unhealthy	288	36.4	503	63.6	< 0.001	4.271 (3.699-4.932)
Somewhat healthy	203	17.7	944	82.3	< 0.001	1.611 (1.395-1.862)
Very healthy	33	11.8	246	88.2		
Economic status						
q5 (highest)	113	29.6	267	70.4	< 0.001	1.823 (1.595-2.083)
q4	99	28.9	245	71.1	< 0.001	1.760 (1.582-1.958)
q3	100	26.3	281	73.7	< 0.001	1.550 (1.391-1.726)
q2	110	22.7	374	77.3	< 0.001	1.271 (1.131-1.428)
q1 (lowest)	135	18.7	584	81.3		
Number of chronic diseases						
≥2	140	46.9	158	35.1	< 0.001	4.513 (4.009-5.081)
1	179	32.1	378	67.9	< 0.001	2.418 (2.219-2.634)
0	238	16.4	1215	83.6		
Marital status						
Married	308	23.6	999	76.4	0.084	0.947 (0.891-1.007)
Other	249	24.9	752	75.1		
Physical activity						
Limit	205	30.4	486	69.6	< 0.001	1.411 (1.335-1.490)
No limit	352	21.5	1283	78.5	< 0.001	
Region						
Java and Bali	451	25.2	1410	75.8	< 0.05	1.252 (1.142-1.374)
Sumatera	70	25.7	203	74.3	< 0.05	1.353 (1.167-1.568)
East of Indonesia	35	20.4	139	79.6		

Table 3: Factors associated with the utilization of elderly outpatient services with hypertension in Indonesia.

Variable	OR	(95% CI)
Gender		
Female	1.541***	1.328 - 1.789
Male	ref	
Health Insurance Status		
Yes	1.347***	1.256-1.446
No	ref	
Health status		
unhealthy	2.690***	2.056-3.520
Somewhat unhealthy	2.845***	2.386-3.392
Somewhat healthy	1.310***	1.119-1.533
Very healthy	ref	
Economic status		
q5 (the highest)	1.407***	1.215-1.629
q4	1.536***	1.365-1.727
q3	1.394***	1.248-1.556
q2	1.183**	1.050-1.333
q1 (lowest)	ref	
Number of chronic diseases		
≥2	3.005***	2.619-3.448
1	1.871***	1.721-2.033
0	ref	
Marital status		
Married	1.182**	1.038-1.347
Other	ref	
Physical Activity		
Limit	1.281***	1.171-1.401
No limit	ref	
Region		
Java and Bali	1.274***	1.077-1.508
Sumatera	1.421***	1.302-1.552
East of Indonesia	ref	

Note: *ρ < 0.05, **ρ < 0.01, ***ρ < 0.001

money. JKN has become an Indonesian's obligation to manage health funds nationally to reach Universal health coverage (UHC) (25). Statistical research shows that people who joined JKN accounted for around 107 (4.6%) of 2308 Indonesian elderly with hypertension in 2014. A study by madyaningrum reported that 46.9% of the older people in Indonesia had insurance (18). This finding implies that the government should increase the availability of health insurance among the elderly in order to help them access health facilities.

The resulting study of the utilization of outpatient services among the elderly, based on insurance status, shows a significant correlation. Elderly with hypertension nominated as somewhat unhealthy and unhealthy have a 2.8 and 2.6 times more risky chance than those nominated as most healthy. The result is more significant than Korea (1.55 times) (26) and Ethiopia (1.57 times) (15). When it has connected to the elderly with hypertension and two or more chronic diseases, those who have a limitation in doing daily activities will choose outpatient services as the role of becoming healthy elderly. However, on the contrary, based on region, the elderly in Sumatera are more prone to using outpatient services than in Java and Bali, possibly because of a different type of early research that focused on particular chronic diseases of hypertension. This finding implies that the government needs to reduce inequity in health services between the regions in Indonesia.

This study used the line theory of Andersen, with three characteristics: predisposition, ability, and need. The ability included family resources such as family income, members of health insurance, the ability to buy health services, and education on health services need but also people resource such as the number of medical buildings and paramedics in a location (27). People-rate shows paramedic needs and the location of people. In this case, we could not use some characteristics because of unavailable Indonesian family life survey data. This study has limitations, namely using cross-sectional data so that it cannot see a causal relationship. Besides, several variables have yet to be explored due to limited data, such as supply-side factors like availability of health facilities, access to health facilities, and quality of health services.

Conclusion

The need for more outpatient services reflects the increasing number of elderly with hypertension. Significant variables connected to the utilization of elderly outpatient services with hypertension are gender, location, high-level education, mid-level education, insurance status, health status, economic status, number of chronic diseases, physical activity, and region. We recommend that the government optimize roles that focus on prevention, the promotion of the importance of a healthy lifestyle among the elderly with hypertension, and the importance of checking health continuously. It needs to expand poor elderly insurance (PBI) as a priority role of the health ministry to increase poor elderly access. The elderly with hypertension should strive to check their health continuously by checking their blood pressure at least once a month. The next researcher can explore qualified research to understand more about using health services through a cultural approach.

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Ethical Approval

This study has passed the ethics review from the Ethics Review Center of the Faculty of Public Health, Sriwijaya University, with number 213/UN9.1.10/KKE/2019.

Competing interest

The authors declare no competing interest

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