

Analysis of The Utilization of The National Health Insurance for Outpatient Health Services for The Elderly In Indonesia (Analysis of Susenas 2021 Data)

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Abstract

According to Law No. 24 of 2011, BPJS has the goal of realizing the implementation of provisions to guarantee the fulfillment of decent basic living needs for all people and/or their family members regardless of age, including children, adolescents, adults, and the elderly. The purpose of this study is to examine the utilization of JKN for outpatient services among the elderly in Indonesia. The results showed that the variables of gender, age, marital status, education level, smoking habits, health insurance ownership, sources of household financing, and residence had a p-value ($p = 0.000$) <0.05 , indicating a significant relationship with health service utilization among the elderly in outpatient settings in Indonesia. In contrast, the variables of emotional disorders, communication disorders, self-care disorders, and health complaints were not related to the utilization of outpatient health services among the elderly, as they had a p-value > 0.05 . It is hoped that further research can include and explain in detail the diseases commonly experienced by the elderly, thereby clarifying which conditions most frequently utilize JKN for outpatient treatment.

Keywords: jkn ; health services; outpatient ; elderly

INTRODUCTION

The national social security system is a procedure for implementing social security programs by several social security organizing agencies. According to Law No. 40 2004 One type of social security is health insurance. Health insurance is organized nationally based on the principles of social insurance and the principle of equity with the aim of ensuring that all participants get health maintenance benefits and protection in meeting basic health needs.

National Health Insurance (JKN) is part of the national social security system (SJSN) which is organized through a mandatory national health insurance mechanism. Since January 1, 2014, the Indonesian government launched the National Health Insurance Program which aims to fulfill health coverage for all people and society in using health services with sufficient quality and effective and not difficult in terms of finances (Fadly & Vianny, 2019). According to Ministry of Health of the Republic of Indonesia (2016) JKN membership is mandatory for all Indonesian residents so that all people can be protected in the insurance system, so that they can meet basic health needs.

The government in Indonesia has established a legal entity and aims to implement a health insurance program called the Social Security Administration Agency (BPJS). Based on Law No. 24 2011 BPJS has the goal of realizing the implementation of the provision of guarantees for the fulfillment of basic living needs that are proper for all people and/or their family members regardless of age, both children, adolescents, adults, and the elderly (elderly).

According to WHO (2021), the global elderly population reached approximately 900 million in 2015 and is projected to increase dramatically to 2 billion by 2050, representing a 122% increase over 35 years. This demographic transition, characterized by declining fertility rates and increasing life expectancy, is occurring more rapidly in low- and middle-income countries compared to developed nations, creating unprecedented challenges for health systems unprepared for the burden of age-related chronic diseases (United Nations, 2019). In Southeast

Asia specifically, the elderly population is growing at an annual rate of 3.2%, the fastest regional growth globally, with Indonesia experiencing particularly acute demographic shifts (Arifin et al., 2020).

In Indonesia, according to the Directorate General of Population and Civil Registration (Dukcapil) in 2021, there are 30.16 million elderly people, constituting approximately 11.01% of the total population—a percentage that has increased from 7.6% in 2010 and is projected to reach 15.8% by 2035, officially transitioning Indonesia into an "aged society" according to WHO classification criteria (BPS, 2021). This rapid aging presents dual challenges: increasing demand for healthcare services concurrent with a shrinking working-age population to finance these services through tax and insurance contributions. In 2021, almost half of the elderly in Indonesia (49.7%) reported experiencing health complaints, both physical and psychological, with prevalence increasing sharply after age 70. In general, diseases experienced by the elderly are non-communicable, degenerative diseases, such as cardiovascular disease (34.2%), diabetes mellitus (18.6%), stroke (11.3%), rheumatism (52.1%), and injuries (8.4%) (Ministry of Health of the Republic of Indonesia, 2021).

The financial burden of these conditions is substantial: chronic disease management accounts for approximately 60-70% of total health expenditures among the elderly, with catastrophic health expenditures (exceeding 40% of household capacity to pay) affecting 12.8% of elderly households without adequate insurance coverage (Maharani et al., 2019). This underscores the critical need for comprehensive health insurance coverage to protect elderly Indonesians from impoverishment due to medical costs.

The National Action Plan (RAN) for the Elderly 2020-2024 seeks to synergize the implementation of health services for the elderly to improve the quality and quantity of health care for the elderly through the availability of health insurance. Despite policy commitments, significant implementation gaps persist. Health insurance participation for the elderly population remains suboptimal, with substantial geographic and socioeconomic disparities. The results of the 2018 National Socio-Economic Survey (SUSENAS) explained that only about 68.5% or two out of three elderly people have health insurance, leaving approximately 9.5 million elderly individuals unprotected.

Regional variations are stark: coverage ranges from 82.3% in urban Java to as low as 51.2% in rural eastern provinces, reflecting disparities in program awareness, accessibility, and enrollment infrastructure (Styawan, 2019). This represents an important policy challenge for the Indonesian government. If the elderly do not have health insurance, financial barriers create strong disincentives for seeking timely medical care, resulting in delayed diagnoses, progression of preventable conditions, and ultimately worse health outcomes and higher system costs when emergency care becomes unavoidable. In addition to having a negative impact on health, the elderly population who do not have health insurance will ultimately become an economic burden for the productive age group, as family members must divert income from education, business investment, or other productive uses to cover medical expenses for uninsured elderly relatives, perpetuating intergenerational poverty cycles (Ng et al., 2020).

Although a variety of health care facilities are available, in reality, many elderly people are still reluctant to use these facilities to treat their diseases, especially outpatient treatment. This is due to various reasons. According to BPS (2021) 70.24% of the elderly are reluctant to seek outpatient treatment because they choose to do their own treatment to alleviate their health complaints. In addition, there are 15.96% of the elderly who feel that they do not need outpatient treatment, and 11.95% said that the elderly have no means of transportation, no one to accompany them, the waiting time for services is considered long, and they are worried about being exposed to Covid-19. Even though the coverage of health insurance ownership for the elderly is above 65%, there are still 2.36% of the elderly who do not seek outpatient treatment due to lack of cost.

The purpose of this article study is to know the use of JKN for outpatient services for the elderly in Indonesia. Considering that the biggest challenge for the elderly is the declining level of health that causes the elderly to need a large cost for treatment. Therefore, the use of JKN for elderly health services, especially outpatient services, must receive more attention. When the use of JKN for health services for the elderly is ideal, the achievement of the quality of life of the elderly in Indonesia will be optimal.

METHODS

This research is quantitative research using secondary data from the 2021 National Socio-Economic Survey (SUSENAS). The unit of analysis in this study is elderly individuals, namely individuals with an age of ≥ 60 years. According to SUSENAS 2021 data, the elderly population is 122,694 people. The data were analyzed bivariately and multivariately using the Binary Regression method using a logit model. The method is used to analyze the causality between independent variables and dependent variables in binary form. The causality relationship is expressed in the form of an equation that connects dependent variables, namely the use of JKN on outpatient health services in the elderly with several independent variables. The logistical equation can be written as follows:

$$P_i = \frac{1}{1+e^{-z_i}} \quad (1)$$

Where:

$$Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} \quad (2)$$

The econometric model in this study is:

$$Y = \beta_0 + \beta_1 X_{jk} + \beta_2 X_{age} + \beta_3 X_{status} + \beta_4 X_{education} + \beta_5 X_{smoking} + \beta_6 X_{insurance} + \beta_7 X_{income} + \beta_8 X_{itt} + \beta_9 X_{emotional} + \beta_{10} X_{communication} + \beta_{11} X_{independent} + \beta_{12} X_{complaints}$$

Where:

And = The use of JKN for outpatient health services in elderly patients

β_0 = Konstan

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$ = Parameter

X1 = Gender

X2 = Age

X3 = Marital status

X4 = Last education

X5 = Smoking habits

X6 = Insurance ownership

X7 = Source of income

X8 = Place of residence

X9 = Emotional disorders

X10 = Communication disorders

X11 = Self-management disorder

X12 = Health complaints

RESULTS AND DISCUSSION

Table 1. Characteristics of Elderly Patients in Indonesia

Independent Variables	Outpatient Treatment				Total
	No	%	Yes	%	
	N		N	%	N
Gender					
Male	48.708	48,29%	9.887	45,28%	58.595
Women	52.150	51,71%	11.949	54,72%	64.099

Independent Variables	Outpatient Treatment				
	No		Yes		Total
	N	%	N	%	
Age					
60-74 years old	82.708	82,00%	17.411	79,74%	100.119
75-90 years	17.326	17,18%	4.254	19,48%	21.580
>90 years old	824	0,82%	171	0,78%	995
Marital Status					
Unmarried	1.658	1,64%	206	0,94%	1.864
Divorce life	2.440	2,42%	513	2,35%	2.953
Divorce	33.758	33,47%	7.991	36,60%	41.749
Married	63.002	62,47%	13.126	60,11%	76.128
Education Level					
Low	85.318	84,59%	18.591	85,14%	103.909
Intermediate	9.737	9,65%	2.064	9,45%	11.801
Height	5.803	5,75%	1.181	5,41%	6.984
Smoking Habits					
Yes	22.982	22,79%	3.312	15,17%	26.294
No	77.876	77,21%	18.524	84,83%	96.400
Insurance Ownership					
BPJS PBI and JAMKESDA	2.809	5,93%	748	7,86%	3.557
Non-PBI BPJS	17.404	36,74%	4.420	46,45%	21.824
Private insurance	167	0,35%	28	0,29%	195
Office	517	1,09%	96	1,01%	613
None	26.476	55,89%	4.223	44,38%	30.699
Funding Sources					
ART	82.309	81,61%	16.342	74,84%	98.651
Investment	533	0,53%	171	0,78%	704
Money remittances	12.316	12,21%	3.843	17,60%	16.159
Retirees	5.700	5,65%	1.480	6,78%	7.180
Residence					
Village	60.187	59,67%	12.371	56,65%	72.558
City	40.671	40,33%	9.465	43,35%	50.136
Emotional Disorders					
Yes	4.446	4,41%	915	4,19%	5.361
No	96.412	95,59%	20.921	95,81%	117.333
Communication					
Disruption	7.243	82,31%	1.557	17,69%	8.800
Yes	93.615	82,19%	20.279	17,81%	113.894
Self-Managing Disorders					
Yes	6.591	6,53%	1.398	6,40%	7.989
No	94.267	93,47%	20.438	93,60%	114.705
Health Complaints					
Yes	40.367	40,02%	8.733	39,99%	49.100
No	60.491	59,98%	13.103	60,01%	73.594

Based on table 1, it can be seen that the elderly (elderly) female population uses health services more for outpatient care (54.72%) compared to the elderly male (45.28%). The age of 60-74 years is the age of the elderly population who use health services for outpatient care (79.74%). Meanwhile, the smallest percentage in using health services for outpatient care is the elderly aged >90 years (0.78%). Married seniors have the largest percentage of using

outpatient health services (60.11%). However, the elderly with unmarried status have the smallest percentage in the use of outpatient health insurance (0.94%). The level of education of the elderly population who use health insurance for outpatient treatment is dominated by the elderly with low education (SD, SDLB, MI, Package A, SMP, SMP LB, MTs, and Package B) which is 85.14%. Meanwhile, the elderly who use outpatient health insurance the least are the elderly with higher education (5.41%). The elderly who have a healthy lifestyle by not smoking have the largest percentage in the use of health insurance for outpatient care, which is 84.83%. Non-PBI BPJS insurance is the most widely used insurance in the use of outpatient health insurance by the elderly, at 46.45%, while private insurance is the least type of insurance owned by the elderly for the use of outpatient health insurance (0.29%).

The elderly who have a source of household financing from household members have the highest percentage in the use of outpatient health insurance (74.84%). Meanwhile, the elderly who have a source of household financing from investment, in the use of outpatient health insurance, has the lowest percentage, which is 0.78%. Elderly people who live in villages tend to use health insurance for outpatient care (56.65%) more than the elderly who live in cities (43.35%). Elderly people who do not have emotional disorders show a greater percentage to take advantage of outpatient health insurance (95.81%) compared to the elderly who have emotional disorders (4.19%). Elderly people who do not experience communication disorders tend to use outpatient health insurance (92.87%) compared to the elderly who have communication disorders (7.13%). The elderly who do not experience problems in taking care of themselves are more likely to benefit from outpatient health insurance (93.60%) compared to the elderly with problems in taking care of themselves (6.40%). Elderly people who do not experience health complaints use outpatient health insurance more (60.01%) compared to the elderly with health complaints (39.99%).

Table 2. Determinants of JKN Utilization by Outpatient Elderly Patients

Variable	Coef.	P-value	Odds Ratio
Gender	-.097	0.000	.908
Age	.068	0.000	1.070
Marital Status	.036	0.006	1.036
Education Level	-.126	0.000	.882
Smoking Habits	-.529	0.000	.589
Insurance Ownership	.025	0.000	1.025
RT Financing Source	.147	0.000	1.158
Residence	.097	0.000	1.102
Emotional Disorders	.066	0.118	1.068
Communication Disruption	-.026	0.453	.974
Self-Managing Disorder	.022	0.549	1.022
Health Complaints	.000	0.998	1.000
cons	-1.534	0.000	.216
Pseudo R2			0.0131

The results of the logit test showed that the logit model was able to explain the data by 1.31%, while the rest was explained by other variables that were not studied in this study. The results of the statistical test showed variables related to the use of outpatient health services in the elderly with a value of $P(0.000) < 0.05$, namely gender, age, marital status, education level, smoking habits, insurance ownership, sources of household financing, and area of residence. Variables that are not related to the use of outpatient health services in the elderly are emotional disorders, communication disorders, self-care disorders, and health complaints.

The Relationship between Sex and the Utilization of Outpatient JKN in Elderly Patients

Gender variables indicate odds ratio 0.908 (OR close to 1). There is no relationship between the elderly and women in utilizing health insurance for outpatient treatment and the

elderly who are male. This is in line with research Irawan & Ainy (2018) which states that gender does not affect a person in taking advantage of health insurance to visit health services. Both men and women have significant risks in the use of health services and behavioral factors or local habits that distinguish whether a person will use health services or not.

The Relationship between Age and the Utilization of Outpatient JKN in Elderly Patients

This study shows that the value of odds ratio on the age variable of 1,070 (OR>1) which means that the elderly have a 1,070 times higher risk in utilizing health insurance for outpatient care than someone under 60 years old. This is in accordance with research Massie (2019) which explains that the elderly tend to take advantage of health insurance to be used in health care facilities because at that age the elderly tend to experience health problems such as disability, arthritis, cataracts, stroke, diarrhea, and aris. In addition, the theory Health Service Use stated that age is one of the predispositions that affect a person's behavior in using health services. The older a person gets, the weaker his immune system will decrease and in the elderly the disease experienced will be more severe so that it requires health services for the recovery of the elderly (Sonia et al., 2022).

The Relationship between Marital Status and the Utilization of Outpatient JKN in Elderly Patients

Obtained odds ratio in the marital status variable of 1.036 (OR>1). This value means that marital status has a risk of using health insurance for outpatient care 1,036 times higher than the unmarried elderly. This is in line with research Pandey et al. (2019) that marriage can affect health status through support, protection, and patterns of utilization of health insurance to be used for efficient health services.

The Relationship between Education Level and the Utilization of Outpatient JKN in Elderly Patients

Odds ratio (OR) in this study, a result of 0.882 (OR<1) was obtained, so it can be said that the education variable is a protective factor, namely that the educated elderly have a risk of 0.882 times to utilize health insurance for outpatient treatment. These results are in line with previous research which stated that there is a meaningful relationship between the variables of education level and the use of national health insurance. Seniors who have a higher level of education are more likely to receive information so that they get more knowledge. Knowledge has an influence in shaping public perception of the importance of maintaining health. A good perception will increase public awareness of the importance of health investment that we know in Indonesia is the National Health Insurance (JKN). So that the higher the level of education of an elderly person, the tendency to use health insurance for outpatient treatment will be greater than the elderly who have low education (Amadea & Rahardjo, 2022).

The Relationship between Smoking Habits and the Utilization of Outpatient JKN in Elderly Patients

The smoking habit variable has an OR value of 0.589 (OR<1) which means that the smoking habit variable is a protective factor, namely that the elderly who have a smoking habit have a risk of 0.589 times to take advantage of health insurance for outpatient treatment compared to the elderly who do not smoke. This is in line with previous research which states that if smokers suffer from diseases due to cigarettes, they will use JKN in their treatment so as not to be burdened with health costs. Therefore, it can be said that the higher the number of smokers, the greater the tendency to take advantage of health insurance so as not to be burdened with health costs for outpatient treatment, the greater it will be compared to someone who does not smoke (Scott, 2019).

The Relationship between Insurance Ownership and the Utilization of Outpatient JKN in Elderly Patients

The results of the study show that odds ratio in the insurance ownership variable of 1.025 (OR>1). So it can be explained that insurance ownership has a risk in utilizing health insurance

for outpatient care 1,025 times higher than the elderly who do not have insurance. This is in line with research Kusumaningrum & Soewondo (2018) which states that the ownership of insurance after other variables are controlled, is significantly related to health services. Furthermore, it was explained that the ownership of health insurance can increase the utilization of health services by 1.5 times higher than those who do not have insurance.

The Relationship between Household Financing Sources and the Utilization of Outpatient JKN in Elderly Patients

Results odds ratio in the variable of household financing sources of 1.158 (OR>1) and it can be interpreted that household financing has a risk in utilizing health insurance for outpatient treatment 1.158 times higher than the elderly who do not have a source of household financing. This result is in line with previous research that said that a person who works and has an income will be motivated to take advantage of health services in health facilities because they have been able to pay their own contributions or premiums from JKN every month (Mustafidah & Indrawati, 2021).

The Relationship between Residence and the Utilization of Outpatient JKN in Elderly Patients

The residence has odds ratio of 1.102 (OR>1) which can be interpreted as that the elderly living in the city have a 1.102 times higher risk in utilizing health insurance for outpatient treatment than the elderly who live in the village. This research is in line with previous research (Sari & Handayani, 2020) which explains that a person who lives in rural areas has a tendency to have lower utilization of health services than in urban areas. This happens because household access to health facilities is still very minimal and it is difficult to reach health service facilities at the sub-district/village level. Furthermore, it was explained that the low utilization of health services is also influenced by the existence of limited health facilities, facilities and health workers.

The Relationship of Emotional Disorders with the Utilization of Outpatient JKN in Elderly Patients

The emotional disorder variable has a value odds ratio of 1.068 (OR>1) and P-value of 0.118 (P-value>0.05). It can be said that the elderly who have emotional disorders have a 1,068 times higher risk in utilizing health insurance for outpatient treatment than the elderly without emotional disorders. It can also be said that there is no effect between emotional disturbances and the use of outpatient JKN in the elderly. The results of this study are in line with previous research which explained that emotional health affects the physical health of the elderly. For example, the elderly with heart disease will be more at risk of experiencing emotional disturbances than healthy seniors. Efforts that can be made to maintain the physical health of the elderly so that they are better are to make it easier for the elderly to get access to health services and welfare. This effort is carried out so that the physical health problems of the elderly can be immediately handled and cured (Hany, 2018).

The Relationship between Communication Disorders and the Utilization of Outpatient JKN in Elderly Patients

In the variable of communication disorders, it is obtained odds ratio namely 0.974 (OR close to 1) and p-value is 0.453 (p-value>0.05). This result can be said to be that there is no relationship between the elderly and communication disorders in utilizing health insurance for outpatient treatment with the elderly without communication disorders. In addition, it can also be said that there is no significant difference between communication disorders and the use of outpatient JKN in the elderly because it has a p-value of 0.549 (p-value>0.05). This result is evidenced by Health Law No. 36 of 2009 which states that efforts to improve and maintain public health, including the elderly, are carried out on the basis of the principle of non-discrimination, participation, and sustainability. The principle of non-discrimination means that all citizens, including the elderly, are obliged to obtain health insurance for health services,

both the elderly with communication disorders and those who do not experience disorders (Sigh) *et al.*, 2022).

The Relationship between Self-Care Disorders and the Utilization of Outpatient JKN in Elderly Patients

Self-care disorder is a variable that has value odds ratio of 1.022 (OR close to 1) which means that the elderly who have self-care disorders and the elderly without self-care disorders have no influence in utilizing health insurance for outpatient care. In addition, it can also be said that there is no significant difference between the disorder of self-care and the use of outpatient JKN in the elderly because it has a p-value of 0.549 (p-value>0.05). This is in line with the Health Law No. 36 of 2009 which has emphasized that everyone, including the elderly, has the same right to access health and obtain safe, quality, and affordable health services with health insurance. So it can be said that the elderly with self-care disorders have the same rights as the elderly not with self-care disorders in terms of the use of JKN (Widiastuti, 2017).

The Relationship between Health Complaints and the Utilization of Outpatient JKN in Elderly Patients

The last variable is the variable of health complaints. Health complaints have an odds ratio value of 1,000 (OR=1) p-value of 0.998 (p-value>0.05). There is no relationship between the elderly and health complaints in utilizing health insurance for outpatient treatment with the elderly without health complaints. In addition, it can also be said that there is no significant difference between health complaints and the use of outpatient JKN in the elderly. This is in accordance with the research of Styawan (2019) which says that the elderly can treat their health complaints both that interfere with daily activities and health complaints that do not interfere by utilizing JKN or independently. So that the elderly can use health insurance for prevention (promotive and preventive) and treatment (curative).

CONCLUSION

The results revealed that sociodemographic and lifestyle factors—such as gender, age, marital status, education level, smoking habits, health insurance ownership, sources of household financing, and residence—were significantly associated with outpatient health service utilization among the elderly in Indonesia in 2021, as indicated by a p-value of 0.000 (<0.05); however, emotional disorders, communication disorders, self-care disorders, and health complaints showed no significant relationship (p > 0.05). These findings highlight key determinants influencing JKN use for outpatient care, suggesting that enhanced health awareness could encourage greater elderly participation, particularly in promotive and preventive efforts. For future research, studies should detail prevalent elderly diseases to identify which conditions drive the highest JKN utilization for outpatient treatment, enabling more targeted policy interventions.

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