**THE DETERMINANT OF OUTPATIENT HEALTH SERVICES UTILIZATION FOR ELDERLY PATIENT IN INDONESIA (SUSENAS 2017 DATA ANALYSIS)**

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**Abstract.** Indonesia has entered an aging population as showed by the number of elderly population which has reached more than 7% of the population. Basically, the increase in the elderly population will also increase the number of illnesses, because the more a person ages, the physical condition will decrease and be more susceptible to disease. This research is a quantitative study that aims to determine the determinants of outpatient health service use for Indonesian elderly in 2017. This research used secondary data from the 2017 National Socio-Economic Survey (Susenas) results with the unit of analysis is people aged ≥ 60 years who had health complaints. The analytical method used is logit regression analysis. The results showed that gender, education, employment status, residential area, health insurance ownership, economic status, and disruption of activity due to illness had a p-value of 0.000 < 0.05 which means that it was significantly associated with the utilization of outpatient health services. The most dominant variable is the disruption of activity due to illness. The government can issue policies related to efforts to register each elderly person into health insurance through optimizing a healthy Indonesian program with a family approach. The government is expected to be more assertive in monitoring and evaluating elderly health services by considering factors that support the elderly in utilizing health services to achieve healthy aging and active aging.

**Keywords:** Elderly, Utilization Of Health Services, Outpatient Care, Logit

**INTRODUCTION**

According to the Government Regulation of the Republic of Indonesia, Number 43 of 2004 concerning the implementation of efforts to increase the welfare of the elderly, the elderly is defined as someone who has reached the age of 60 (sixty) years and above. Globally, the population has entered the age of aging population and it is predicted that the number of elderly people will continue to increase, this is indicated by the elderly population that has exceeded 7% both globally and Asia. The number of Indonesian elderly population in 2017 reached 8.97% (23.4 million) and based on the results of UN projections (2017), the percentage of Indonesian elderly will reach 10% in 2021 (Central Statistics Agency, 2017; Pusdatin, 2017).

The increase of elderly population is a form of success and reflects national development in the health sector as indicated by the increasing life expectancy of the Indonesian people. However, the increase of elderly population also presents its own challenges for Indonesia which touches various aspects of life, particularly the
health, because elderly people will basically experience a decline in health status both naturally and as a result of disease. (Central Statistics Agency, 2017).

According to the Indonesian Ministry of Health (2015), the health problems of the elderly began with a decrease in body cells, so that the function and endurance of the body decreased and the risk factors for the disease also increased. According to the Indonesian population census in 2010, the prevalence of people with disabilities increased to 8.8% in the group age of more than 50 years compared to the group age less than 50 years old. In addition, there was a tendency to increase disability by up to 26% due to increasing age. (RI Ministry of Health, 2015; Seftiani, 2015)

The main health challenge for the elderly population is non-communicable diseases. Low and middle-income countries (LMIC) have two or three times greater impact on the elderly compared to high-income countries. According to WHO (in Djaja, 2007), the biggest health burden for the elderly comes from diseases such as heart disease, stroke, visual impairment, hearing loss, and dementia. The highest cause of death in the 55-year group in Indonesia is circulatory system disease, followed by infection, respiratory system, digestive system, skeletal muscle system, endocrine, neoplasm, and accident/injury. (Djaja, 2007)

Government Regulation Number 43 of 2004 concerning the implementation of efforts to improve the elderly social welfare states that health services for the elderly aim to maintain and improve the health and ability of the elderly so that their physical, mental and social conditions (including spiritual) can function reasonably. Health services are carried out through counseling and dissemination of information on elderly health, curative efforts, which are extended to the fields of geriatric/gerontological services, and the development of elderly care institutions that suffer from chronic diseases and/or terminal diseases (PP, 2004).

Research conducted by Wahyuni (2014) shows that the utilization of health services is still very low in the elderly, and even many elderly people do not use health services when they have health or illness complaints. Efforts to plan the health service programs that are needed and able to be bought by consumers in the future can be done by analyzing the factors that encourage individuals to take advantage of health services (Feldstein in Su’udi, 2010; Ilyas, 2011).

According to Andersen in Wahyuni (2014) the utilization behavior of health services is influenced by three main components, which are predisposing characteristics (demography, social structure, and health beliefs), ability or enabling characteristics (family sources and community resources), and characteristics of the need for health services (individual assessment and clinical assessment).

This study aims to analyze the determinants of health service utilization among the elderly with illness in Indonesia in 2017 hence the factors that support the sick elderly to utilize outpatient health services can be known and the government can determine policies to strengthen efforts in providing health services to the elderly to support the achievement of healthy aging and active aging.

**METHOD**

This research is a quantitative study using secondary data from the 2017 National Socio-Economic Survey (Susenas). The unit of analysis in this study is individuals with residents aged ≥ 60 years who have health complaints in the past month. The number of elderly who became respondents in Susenas in 2017 amounted to 101,882 people, of which the number of elderly who had health complaints (sickness) was 49,466 people (48.6%) and 52,416 people (51.4%) did not have health complaints.

The analysis was carried out in December 2018 until January 2019 using the logit regression analysis method. Logit regression analysis is a method for analyzing causality between variables with a dependent variable in the form of binary. The causality relationship is expressed in the form of an equation that connects the dependent variable, namely the utilization of outpatient health services in the elderly with several independent variables. The logistics equation is written as follows:

\[ P_i = \frac{1}{1+e^{-Zi}} = \frac{e^{Zi}}{1+e^{Zi}} \quad (1) \]

Where Zi is:

\[ Zi = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 \quad (2) \]

The econometric model used in this study is:

\[ Y = \beta_0 + \beta_1j_k + \beta_2\text{marriage} + \beta_3\text{education} + \beta_4\text{work} + \beta_5\text{live} + \beta_6\text{healthinsurance} + \beta_7\text{economicstatus} + \beta_8\text{activity} \]

Where:

- \( Y \) = Utilization of outpatient health services in the sick elderly
- \( \beta_0 \) = Constant / intercept
- \( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8 \) = Parameter
- \( X_1 \) = Gender
- \( X_2 \) = Marital status
- \( X_3 \) = Level of education
X_4 = Working status
X_5 = Residence area
X_6 = Health insurance ownership
X_7 = Economic status
X_8 = Disruption of activity due to illness

\[ \mu \] = Error term

RESULTS AND DISCUSSION

The physical condition of the elderly in general continues to weaken, the natural aging process requires the elderly to routinely check their health either before illness or have suffered pain. Elderly who have health complaints amounting to 49,466 people, while the distribution of utilization of outpatient health services in the elderly ill as in the following table:

Table 1. Utilization of Outpatient Health Services in the Elderly in Indonesia in 2017

<table>
<thead>
<tr>
<th>Utilization of outpatient health services</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (no)</td>
<td>23,589</td>
<td>47.69</td>
</tr>
<tr>
<td>1 (yes)</td>
<td>25,877</td>
<td>52.31</td>
</tr>
<tr>
<td>Total</td>
<td>49,466</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Based on Table 1, it can be seen that the number of elderly ill patients who use outpatient health services is 25,877 (52.31%). The distribution of utilization of outpatient health services is based on independent variables, as follows:

Based on Table 2, it can be seen that older women who are ill use more outpatient health services (53.9%) compared to elderly ill men. Elderly people who do not live with their partners (not married) use less outpatient care (42%) compared to sick elderly people who married. The percentage of the elderly ill people with higher education (D1 to S3) is actually the smallest (3.5%) in utilizing outpatient health services compared to those who do not finish school, low education or moderate education. Based on the work status, the percentage of elderly ill people who do not work utilizes outpatient health services (56.5%) more than the elderly ill who are working.

The presentation of the elderly ill people who live in urban areas and utilize outpatient health services is actually smaller (42.3%) compared to the elderly who live in rural areas and use outpatient health services. Elderly people who have health insurance show a higher presentation of the utilization of outpatient health services (70.7%) compared to the elderly ill people who do not have health insurance. Based on the economic status, it was found that the elderly ill people in the five quintiles (richest) category had the smallest percentage (16.2%) among the economic status categories quintile one (poorest), quintile two, quintile three, and quintile four. The existence of disruption of activity due to illness in the elderly who use outpatient health services has a higher presentation (69%) compared to the sick elderly who do not have disruption of activity.
Determinants the utilization of outpatient health services in the elderly in 2017, as follows:

**Table 3. Determinants of Utilization of Outpatient Health Services in the Elderly Ill People in 2017**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Coef. Logit</th>
<th>P-value Logit</th>
<th>OR Logit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>0.090</td>
<td>0.000</td>
<td>1.095</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>-0.011</td>
<td>0.607</td>
<td>0.989</td>
</tr>
<tr>
<td>Marriage</td>
<td>Married</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Not married</td>
<td>-0.111</td>
<td>0.000</td>
<td>0.333</td>
</tr>
<tr>
<td>Education</td>
<td>Low</td>
<td>0.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>0.141</td>
<td>0.000</td>
<td>1.151</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>0.293</td>
<td>0.000</td>
<td>1.341</td>
</tr>
<tr>
<td>Working status</td>
<td>Not working</td>
<td>0.140</td>
<td>0.000</td>
<td>1.150</td>
</tr>
<tr>
<td>Residential area</td>
<td>Rural</td>
<td>0.128</td>
<td>0.000</td>
<td>1.136</td>
</tr>
<tr>
<td>Health insurance</td>
<td>No insurance</td>
<td>0.175</td>
<td>0.000</td>
<td>1.192</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0.374</td>
<td>0.000</td>
<td>1.454</td>
</tr>
<tr>
<td>Economic status</td>
<td>Quintile 1</td>
<td>0.105</td>
<td>0.000</td>
<td>1.113</td>
</tr>
<tr>
<td></td>
<td>Quintile 2</td>
<td>0.055</td>
<td>0.000</td>
<td>1.060</td>
</tr>
<tr>
<td></td>
<td>Quintile 3</td>
<td>0.155</td>
<td>0.000</td>
<td>1.166</td>
</tr>
<tr>
<td></td>
<td>Quintile 4</td>
<td>0.157</td>
<td>0.000</td>
<td>1.210</td>
</tr>
<tr>
<td></td>
<td>Quintile 5</td>
<td>0.137</td>
<td>0.000</td>
<td>1.193</td>
</tr>
<tr>
<td>Activities</td>
<td>Disruption of activity due to illness</td>
<td>1.217</td>
<td>0.000</td>
<td>3.378</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0.140</td>
<td>0.000</td>
<td>1.150</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>0.055</td>
<td>0.000</td>
<td>1.113</td>
</tr>
<tr>
<td>cross</td>
<td></td>
<td>-1.197</td>
<td>0.000</td>
<td>0.302</td>
</tr>
</tbody>
</table>

Based on the logit test results it was found that the logit model was able to explain the data of 7.32%, while the rest was explained by other variables which not examined in this study. The statistical test results showed variables related to the utilization of outpatient health services in the elderly with a P-value (0.000) < 0.05, that is gender, education level, work status, residential area, health insurance ownership, economic status, and activity disruption due to illness. The variable that is not related to the utilization of outpatient health services in the elderly is marital status.

1. Gender

Elderly women have a probability of 1.1 times higher compared to men to use outpatient health services when sick. This happens because not only the physical condition of women is more susceptible to various diseases but also weak in dealing with their pain. So that female elderly have a higher desire to consult health workers in an effort to overcome their health complaints. This result is consistent with the research conducted by Purwadi, Hadi and Hasan (2013) showing that there is a relationship between gender and the utilization of outpatient health services in the elderly.

2. Education Level

The elderly with a higher education level has a probability of utilizing outpatient health services 1.3 times higher compared to the elderly who do not graduate from school. This happens because of the higher the level of education undertaken by a person, the higher the knowledge of health and health services information they have. This knowledge will influence them to utilize outpatient health services both during illness and for routine health checks as a preventative measure. The results of this study are consistent with Wahyuni’s research (2014) which shows that there is a significant relationship between the level of education and the utilization of outpatient health services.

3. Working status

Elderly people who do not work have a probability of 1.1 times higher for utilizing outpatient health services compared to those who work. This is because the elderly who do not work have more free time to meet medical personnel when they are sick. As with the elderly who work, they must consider working hours and deductions from their salary/benefits which they receive when they are out of work for treatment. Likewise, with the elderly who have their own businesses, the consideration is the amount of income that must be granted when not opening the business when they have to seek treatment.

In general, working elderly people are considered able to access health services because they still have fixed income. However, when cross-checking between the status of working with the ownership of health insurance, the majority of the elderly who did not work mostly had health insurance. This has an impact on the ease of access to sick elderly people who do not work to utilize outpatient health services because they feel they have no burden when guaranteed by health insurance. The results of this study are consistent with the research of Susanti and Mitra (2011) which shows that there is a significant relationship between the level of education and the utilization of outpatient health services.

4. Live Area

Elderly people living in urban areas have a 1.1 times higher probability of utilizing outpatient health services compared to elderly who live in rural areas. This happened because health facilities in urban areas are easier to reach. Apart from the fact that social infrastructure facilities that are more supportive in urban areas, medical personnel and health infrastructure are also more available. The results of this study are in accordance with the study of Oktarina (2010) which shows that rural residents who do not use outpatient health services are more than those who live in urban areas.
5. Health Insurance Ownership

Elderly people who have health insurance have a probability of 1.5 times higher for utilizing outpatient health services compared to elderly who do not have health insurance. This is because most of the elderly are unemployed and do not have income so that the ownership of health insurance will greatly support the elderly to use health services for outpatient services in Setyarini, Arso, and Separwati (2017). The ownership of health insurance in this study includes all types of health insurance such as BPJS Health, regional health insurance (Jamkesda), private insurance, and health insurance from companies/offices. The results of this study are in accordance with Wahyuni's research (2014) which shows that there is a significant relationship between the ownership of health insurance and the utilization of outpatient health services in the elderly.

6. Economic status

The elderly who are in the economic quintile five category (the richest) have a 1.4 times higher probability of utilizing outpatient health services compared to the elderly in the quintile one (poorest) economic status category. This is because the elderly with low economic status will face obstacles in obtaining access due to the inability to pay for services and travel costs (Jimenes and Nadjib in Wahyuni, 2014).

At the Government-owned First Level Health Facilities (FKTP) such as Puskesmas, the Elderly Community Health Center program provides convenience for the elderly who get medical treatment for free. In addition according to PP No. 43 of 2004 which states that there is a provision of relief for health service costs for elderly who are not economically capable. Another obstacle is access to these health facilities, so the role of the family or community around the home environment is very important to be able to accompany the elderly to seek treatment. The results of this study are in accordance with the results of Wahyuni's research (2014) which showed that there was a significant relationship between economic status and utilization of outpatient health services in the elderly.

7. Disruption of activity due to illness

Elderly people who experience disruption due to illness have a probability of 3.4 times higher than the elderly who do not experience disruption due to illness. This probability number is the highest among other independent variables that have a significant relationship to the utilization of outpatient health services in the elderly ill people. This means that the disruption of activity experienced by the elderly when sick is the dominant factor affecting the elderly to utilize outpatient health services.

In general, elderly people will experience a decrease in physical conditions which will result in limited activities that can be done. With the existence of health complaints (illness), not a few elderly people who become unproductive or even unable to carry out activities at all. The disruption of activity will feel very detrimental if the elderly person lives alone, no one can care for him when he is sick. So that it will encourage the elderly to immediately consult with medical personnel when they have health complaints. The results of this study are in line with Wahyuni's research (2014) which shows that there is a significant relationship between disruption of activity due to illness and utilization of outpatient health services in the elderly.

8. Marital Status

Marital status variables do not have a significant relationship with the utilization of outpatient health services. This might be due to the absence of a very far difference between the status of elderly married marriages who use health services. Elderly people who live without partners (not married/divorced) have a probability that is 1 times higher for utilizing outpatient health services compared to sick elderly who live with partners. This is because the married elderly have a partner who can care for him when he is sick, so he feels no need to go to a medical person if it is not too severe. The results of this study are in line with the research conducted by Susanti and Mitra (2011) which shows that there is no significant relationship between marital status and utilization of outpatient health services in the elderly.

CONCLUSION

The results showed that the variables of sex, education level, working status, living area, ownership of health insurance, economic status, disruption of activity due to illness had a p-value (0.000) <0.05 which means there was a significant relationship with the utilization of health services in elderly ill people in Indonesia in 2017. The marriage status variable is not related to the utilization of outpatient health services in the sick elderly with p-value (0.607)> 0.05.

By knowing the determinants that can affect the elderly in using health services, it is hoped that the Government can develop policies related to health services for the elderly both promotively, preventively and curatively. The approach taken can be based on factors that are known to affect the utilization of health services. Elderly people generally have weak physical conditions and these conditions may be one of the difficulties of the elderly in reaching health facilities. For this reason, future studies are expected to be able to include the role
of family members and the community in supporting elderly people who are sick to use outpatient health services.

RECOMMENDATIONS

Government efforts to improve the welfare and health status of the elderly through the implementation of the Elderly Community Health Center. The implementation of the Elderly Community Health Center is also supported by outside building services, such as the elderly Posyandu, home care, and services in the elderly nursing home. So that the elderly with non-supportive physical conditions, abilities, family, and condition of the surrounding environment can be helped to utilize health services, especially when they have health complaints or illness. However, the percentage of Elderly Community Health Centers in 2017 amounted to 37.20% of the total Puskesmas in all regions of Indonesia, this percentage had increased by 50.12% in 2018. This shows that the Central Government and Regional Governments must be more assertive in implementing the policy by conducting monitoring and evaluation related to what might be obstacles in the implementation of the Elderly Community Health Center so that the Elderly Health Center can be available throughout Indonesia. The sustainability of the elderly welfare program also needs to be supported by disseminating information about the implementation of elderly health services and how to access them. This information is conveyed to families and elderly relatives and also through media accessible to the elderly.

REFERENCES


