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DETERMINANTS OF OUTPATIENT CARE BEHAVIOR OF THE ELDERLY POPULATION IN WEST SULAWESI IN 2022: BACKWARD ELIMINATION LOGISTIC REGRESSION

Tengku Natasya Auzea Fahyumi, Nofita Istiana
Statistics Department, Politeknik Statistika STIS, Indonesia, Indonesia

***e-mail**: *112112396@stis.ac.id*

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Abstract: Ageing population is a result of the successful development. It is characterized by an increase in the number and proportion of the elderly population. The elderly population is described as a vulnerable group. As a result of degenerative process in physical, psychological, and social activity aspects, the elderly population has a high risk of experiencing health problems. West Sulawesi is the province with the eighth highest morbidity rate for the elderly. However, this province has the lowest percentage of outpatient care, at 36,39%. Therefore, it is necessary to conduct research on the outpatient care behavior of the elderly in West Sulawesi in 2022. This research uses a binary logistic regression method. The results show that the variables marital status, education level, disability status, and activity impairment have a significant effect on outpatient care behavior in West Sulawesi in 2022. Efforts from the government and the society are needed to increase the awareness about the importance of health checks among the elderly.

1. INTRODUCTION

Bappenas developed "Rencana Pembangunan Jangka Panjang Nasional (RPJPN) 2025-2045" in order to realize the achievement of the 2045 Golden Indonesia Vision, which is to realize Indonesia as a "Sovereign, Advanced and Sustainable Archipelago" Healthy Indonesia is one of the goals of the social transformation towards a Golden Indonesia 2045, through building a resilient and responsive health system and ensuring a long and healthy population [19]. One of the development directions of the RPJPN 2025-2045 listed in its first mission is health for all. This shows that everyone needs to be healthy both physically and psychologically in order to continue to enjoy life, be productive and useful, including the elderly population.

Indonesia has entered the ageing population structure since 2021, where the percentage of the elderly population has reached more than 10%. The percentage of the elderly population in Indonesia in 2022 reached 10,48%. According to the United Nation, an ageing population is a phenomenon that occurs when the median age of the population of a region or country increase in life expectancy or a decrease in fertility rates [9]. The growth of the elderly population is an impact of successful development. One indicator that shows the success of Indonesia's development is Angka Harapan Hidup (AHH)/Life Expectancy. Badan Pusat Statistik, BPS, noted that Indonesia's life expectancy in 2022 was 73,6 years [5]. In accordance with one of the core pillars in the Golden Indonesia 2045 aspiration, namely "Vibrant inclusive society", Indonesia is committed to realizing an increase in life expectancy, which is above 80

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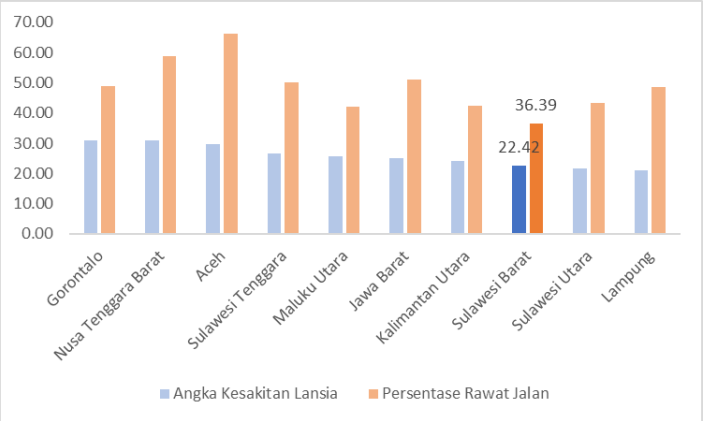
years for men and women [12]. This will certainly lead to an increase in the number of elderly population both in number and proportion which will be a challenge. Maintaining the health and quality of life of the elderly population so that it continues to increase is one of the challenges faced. The increase in the number of the elderly people must go hand in hand with efforts to improve the health status of the elderly population.

The elderly population is described as a vulnerable group. Naturally, the elderly experience a decline in physiological and cognitive functions as they age, making them more vulnerable to various health problems. As a result of degenerative processes in physical, psychological, and social activities, the elderly population has a high risk of experiencing health problems. Basically, elderly health problems can be overcome with proper care behavior, especially by making good use of various available health services, such as outpatient care. The willingness of the elderly population to seek outpatient care shows their concern for their health.



Source: BPS, Statistik Penduduk Lanjut Usia 2022

Figure 1. Elderly morbidity rate and percentage of elderly who are outpatients when experiencing health problems by province, 2022.

Figure 1 shows the 10 provinces with the highest elderly morbidity rates in Indonesia. The elderly morbidity rate is one of the indicators to measure the health status of the elderly. The higher the morbidity rate, the worse the health status of the elderly. The high morbidity rate in the elderly may be related to degenerative diseases and their complications that are often experienced by the elderly population [14]. Therefore, the high morbidity rate of the elderly is expected to be accompanied by a high percentage of elderly people who do outpatient care. West Sulawesi has the eighth highest morbidity rate for the elderly. However, the province has the lowest percentage of outpatients, at 36.39%. The low percentage of elderly outpatients in West Sulawesi followed by the elderly morbidity rate which is the eighth highest in Indonesia in 2022 is the background for researchers to determine West Sulawesi as a research locus.

Elderly people who do not visit health services when experiencing health complaints usually self-medicate. Based on the publication of "Statistik Penduduk Lanjut Usia 2022", it is known that 77.50% of the elderly who did not have outpatient care in West Sulawesi Province in 2022 argued that they could treat their health complaints themselves [4]. The Minister of Health Regulation defines self-medication in No.919/MENKES/PER/X/1993 as a care effort carried out independently to treat symptoms of illness or disease without consulting a doctor first [13]. The implementation of self-medication must meet the criteria for rational drug use, including the accuracy of drug selection, the accuracy of drug dosage, the absence of side

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effects, the absence of contraindications, the absence of drug interactions, and the absence of polypharmacy. Self-medication can cause health problems due to medication errors, such as side effects, overdose, and can also lead to the onset of new diseases that may be more serious. If such errors occur continuously for a long time, it is feared that it can pose a risk to health and even death.

Based on this, a study is needed to determine the general description of the outpatient care behavior of the elderly population, the variables that influence the outpatient care behavior of the elderly population, and the tendency of the variables that influence the outpatient care behavior of the elderly population in West Sulawesi in 2022.

2. LITERATURE REVIEW

2.1. Utilization of healthcare services

Andersen and Newman state that the utilization of healthcare services by an individual can be influenced by various factors, one of which is individual factors. These individual factors are divided into three components: predisposing component, enabling component, and illness level component [2].

1. Predisposing Component

   The predisposing component refers to the characteristics of an individual that influence their likelihood of utilizing healthcare services. This component includes demographic characteristics, social structure, and beliefs about healthcare services, which can be detailed as age, gender, education level, marital status, employment status, and knowledge about diseases.

2. Enabling Component

   The enabling component refers to the conditions that make it possible for an individual to utilize healthcare services. This component reflects the conditions or means available to an individual that allow them to access healthcare services, even if they have predispositional factors that encourage healthcare use. These conditions include characteristics of the living area, income, health insurance coverage, and healthcare costs.

3. Illness Level Component

   Given the presence of predisposing and enabling conditions, an individual must experience illness for healthcare utilization to occur. The illness level component is the most pressing reason for seeking healthcare services, such as disabilities that prevent an individual from performing activities they typically engage in. Additionally, the illness level component includes conditions or symptoms experienced by an individual over a specific period and self-reported assessments of their overall health status.

2.2. Binary Logistic Regression

Binary logistic regression is used to examine the relationship between a binary dependent variable and independent variables that may be numerical, categorical, or both [10]. The binary dependent variable is one that has two categories: one representing the likelihood of a successful event (Y = 1) and the other representing the likelihood of a failure (Y = 0). The form of the binary logistic regression model Is as follows [10].

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$$\pi(x) = \frac{exp\,(\beta_0+\beta_1 x_1+\beta_2 x_2+\cdots+\beta_p x_p)}{1+exp(\beta_0+\beta_1 x_1+\beta_2 x_2+\cdots+\beta_p x_p)} \quad (1)$$

This is a nonlinear function. In order to explain the relationship between the dependent and independent variables, a linear function is required. Therefore, a transformation is necessary to make the function linear. The transformation used is the logit transformation [10]. The logit transformation of π(x) is as follows.

$$g(x) = logit\,[\pi(x)] = ln\left[\frac{\pi(x)}{1-\pi(x)}\right] = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_p x_p \quad (2)$$

with

$\pi(x)$: The probability of a successful event ($Y = 1$)
$g(x)$: Logit transformation
β_0 : Intercept
β_j : The coefficient of the j-th independent variable, where $j = 1, 2, \ldots, p$
x : The j-th independent variable, where $j = 1, 2, \ldots, p$
p : Independent variables

Model Formation

The formation of the binary logistic regression model is aimed at determining the effect of each independent variable on the dependent variable. The binary logistic regression model used is as follows:

$$ln\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_0 + \beta_{11}D_{11} + \beta_{12}D_{12} + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_{51}D_{51} + \beta_{52}D_{52} + \beta_6 D_6 + \beta_7 D_7 + \beta_8 D_8 + \beta_9 D_9 + \beta_{10} D_{10} \quad (3)$$

Stages of Binary Logistic Regression Analysis

1. Simultaneous Significance Test of Parameters

   This test is conducted to assess the collective influence of all independent variables on the dependent variable within the model. The hypotheses used are as follows.

   $H_0: \beta_1 = \beta_2 = \cdots = \beta_{10} = 0$ (no independent variables significantly affect the dependent variable simultaneously)

   H_1: At least one $\beta_j \neq 0$ (at least one independent variable significantly affects the dependent variable)

   The test statistic used is the likelihood ratio test, as follows [10].

   $$G = -2ln\left(\frac{L_0}{L_1}\right) \sim \chi^2_{(p)} \quad (4)$$

   A decision to reject H_0 at a 5% significance level is made if the test statistic $G > \chi^2_{0,05;(12)}$ or if the p-value is less than 0,05. If the decision is to reject H_0, it can be concluded that, at a 5% significance level, at least one independent variable has a significant effect on the dependent variable.

2. Partial Significance Test of Parameters

   The partial significance test is conducted after the simultaneous significance test of parameters. This partial test is performed to examine the effect of a specific

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independent variable on the dependent variable within the model. The hypotheses used are as follows.
$H_0: \beta_j = 0; j = 1,2, \dots ,10$ (there is no significant effect of the j-th independent variable on the dependent variable)
$H_1: \beta_j \neq 0; j = 1,2, \dots ,10$ (there is a significant effect of the j-th independent variable on the dependent variable)

The test statistic used is the Wald test, as follows [10].

$$W_j^2 = \left[\frac{\widehat{\beta_j}}{se(\widehat{\beta_j})}\right]^2 \sim \chi^2_{(1)} \quad (5)$$

A decision to reject H_0 at a 5% significance level is made if the test statistic $W_j^2 > \chi^2_{0,05;(1)}$ or if the p-value is less than 0,05. If the decision is to reject H_0, it can be concluded that, at a 5% significance level, there is a significant effect of the j-th independent variable on the dependent variable.

3. Best Model Selection: Backward Elimination

The backward elimination method is a regression technique that explains the dependent variable's behavior most effectively by selecting the best independent variables from the available ones in the data [18]. The backward elimination process starts by including all independent variables in the logistic regression model. Subsequently, these independent variables are eliminated one by one until only those that meet the criteria remain. This process ends when no more variables can be eliminated, or it can be concluded that all independent variables in the model are significant [16].

4. Model Fit Test

The model fit test is conducted to determine the effectiveness of the model in explaining the dependent variable. The model fit test is performed using the Hosmer-Lemeshow Goodness of Fit test with the following hypotheses.
H_0: The model fits (there is no difference between the observed and predicted results from the model)
H_1: The model does not fit (there is a difference between the observed and predicted results from the model)

The test statistic used is as follows [10].

$$\hat{C} = \sum_{k=1}^{g} \frac{(O_k - n'_k \bar{\pi}_k)^2}{n'_k \bar{\pi}_k (1 - \bar{\pi}_k)} \sim \chi^2_{(g-2)} \quad (6)$$

A decision to reject H_0 at a 5% significance level is made if the test $\hat{C} > \chi^2_{0,05;(8)}$ or if the p-value is less than 0,05. If the decision is to reject H_0, it can be concluded that, at a 5% significance level, the model does not fit the observations.

5. Odds Ratio

The interpretation of regression coefficient values in a binary logistic regression equation is done using the odds ratio. The odds ratio is a measure used to explain the tendency of a specific event occurring between one category and another. In this study, the odds ratio is interpreted as the tendency for elderly individuals to seek outpatient

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care (when experiencing health complaints) when the independent variable is 1, compared to when the independent variable is 0 (the reference category). The odds ratio is calculated from the exponentiated value of $\hat{\beta}_j$ with j is for variables that have a significant effect.

3. METHODOLOGY

Data and Data Sources

This study encompasses all districts and cities within West Sulawesi in 2022. The unit of analysis in this study is the entire elderly population aged 60 years and older who experienced health complaints in West Sulawesi during the same year. The independent variable in this study pertains to the outpatient care-seeking behavior of the elderly population, which is classified into two categories: seeking outpatient care when experiencing health complaints and not seeking outpatient care when experiencing health complaints. The data utilized in this study were derived from raw data collected through the National Socio-Economic Survey (Susenas) in 2022, provided by BPS.

(BPS).**Table 1.** Research Variables

Variable	Category	Dummy
Dependent variable		
Outpatient care behavior	0 = no outpatient care* 1 = outpatient care	
Variables	**Category**	**Dummy**
Independent variable		
Age	0 = young elderly (60-69 years old)* 1 = middle elderly (70-79 years old) 2 = old elderly (≥ 80 years old)	D_{11} D_{12}
Gender	0 = male* 1 = female	D_2
Marital status	0 = not married* 1 = married	D_3
Employment status	0 = does not work* 1 = work	D_4
Education level	0 = primary education* 1 = secondary education 2 = higher education	D_{51} D_{52}
Internet access	0 = do not use internet* 1 = use internet	D_6
Health insurance ownership	0 = do not have health insurance* 1 = have health insurance	D_7
Regional classification	0 = rural* 1 = urban	D_8
Disability status	0 = non-disabled* 1 = disabled	D_9
Activity impairment	0 = unimpaired* 1 = impaired	D_{10}

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Data Analysis Method

Descriptive Analysis

In this study, descriptive analysis was used to address the first research objective, which is to provide an overview of the outpatient care behavior of the elderly population in the province of West Sulawesi in 2022. Descriptive analysis and data visualization in this study are presented using bar charts and tables. The software used to present these diagrams is Microsoft Excel and SPSS.

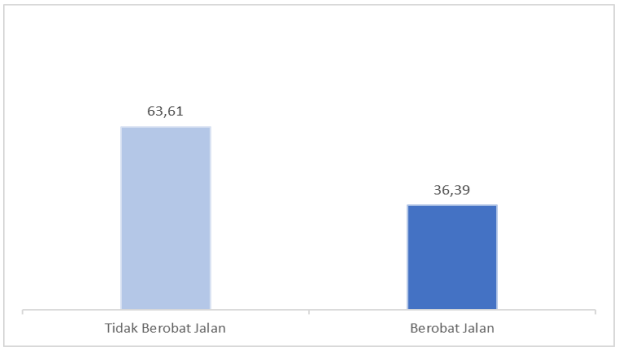
Inference Analysis

In this study, inferential analysis was used to address the second and third research objectives, which are to identify the variables influencing the outpatient care behavior of the elderly population in West Sulawesi in 2022 and to determine the tendencies of the variables that influence this behavior. The inferential analysis method used in this study is binary logistic regression with the backward elimination method, with a significance level or alpha (α) of 0.05. The software used to perform the inferential analysis is SPSS.

4. RESULTS AND DISCUSSION

Overview of Outpatient Care Behavior of the Elderly Population of West Sulawesi in 2022

This study used descriptive analysis to determine an overview of the outpatient care behavior of the elderly population in West Sulawesi in 2022 which is presented in the following figure.



Source BPS, Susenas Data March 2022 (retrivied)

Figure 3. Percentage of Elderly Population Based on Outpatient Behavior in West Sulawesi, 2022.

Based on the figure presented above, it is observed that 63.61% of the elderly population do not seek outpatient care when experiencing health complaints, whereas 36.39% of the elderly population actively seek outpatient care under similar circumstances. The majority of the elderly population, therefore, does not engage in outpatient care when experiencing health issues. Consequently, there is a significant need to examine and understand the variables that influence outpatient care-seeking behavior among the elderly population.

Table 2. Percentage of Characteristics of the Elderly Population Based on Outpatient Behavior in West Sulawesi Province in 2022

Variables	Category	Outpatient Care (%)	
		Yes	No
Age	Young elderly	35,64	64,36
	Middle elderly	37,14	62,86

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	Old elderly	40,90	59,10
Gender	Male	41,91	58,09
	Female	31,66	68,34
Marital status	Not married	29,70	70,30
	Married	40,57	59,43
Employment status	Does not work	42,07	57,93
	Work	31,18	68,82
Education level	Primary education	34,09	65,91
	Secondary education	52,47	47,53
	Higher education	37,08	62,92
Internet access	Do not use internet	37,48	62,52
	Use internet	19,84	80,16
Health insurance ownership	Do not have health insurance	21,22	78,78
	Have health insurance	36,87	63,13
Regional classification	Rural	39,17	60,83
	Urban	25,54	74,46
Disability status	Non-disable	31,05	68,95
	Disable	40,15	59,85
Activity impairment	Unimpaired	35,29	64,71
	Impaired	37,51	62,49

Source: Susenas Data March 2022 (retrivied)

Based on the figure presented above, it can be observed that older elderly individuals exhibit the highest percentage of seeking outpatient care when experiencing health complaints, compared to their younger and middle-aged counterparts, with a rate of 40.90%. This suggests that older elderly individuals are more inclined to seek outpatient care when facing health issues. This tendency can be attributed to the decline in immune function that typically occurs with advancing age. Additionally, the severity of illnesses often increases in older age, which frequently necessitates healthcare services for treatment and recovery from such conditions [1].

Furthermore, it can be observed that the male elderly population demonstrates a higher percentage of seeking outpatient care when experiencing health complaints, with a rate of 41.91%, compared to their female counterparts. This indicates that elderly men are more likely to seek outpatient care when confronted with health issues. This may be explained by the fact that men are at a significantly higher risk—approximately twice as high—of developing degenerative diseases associated with unhealthy lifestyle choices, such as smoking, alcohol consumption, poor diet, lack of physical activity, and obesity [3].

Regarding the marital status variable, it is apparent that married elderly individuals exhibit a higher percentage of seeking outpatient care when experiencing health complaints compared to their unmarried counterparts, with a rate of 40.57%. This suggests that married elderly individuals have a greater propensity to seek outpatient care when facing health issues. This can be attributed to the support and encouragement that a spouse can provide in maintaining health, which may include accompanying one another to seek outpatient care when health complaints arise.

It is observed that the elderly population who are not employed have a higher percentage of seeking outpatient care when experiencing health complaints, with a rate of 42.07%, compared to their employed counterparts. This suggests that elderly individuals who are not working have a greater propensity to utilize healthcare services, particularly outpatient

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care, when facing health issues. This can be attributed to the increased availability of free time among non-working elderly individuals, which allows them greater flexibility to seek medical attention at healthcare facilities when experiencing health complaints.

Furthermore, it is evident that the elderly population with secondary education exhibits the highest percentage of seeking outpatient care when experiencing health complaints, at a rate of 52.47%, compared to those with primary education or higher education. This indicates that elderly individuals with secondary education are more likely to utilize healthcare services in the form of outpatient care, relative to those with primary or higher education levels. The acquisition of a quality education can enhance the elderly's awareness of the importance of health maintenance, thereby increasing their likelihood of seeking healthcare services, such as outpatient care.

Regarding the variable of internet access, it is apparent that the elderly population who do not use the internet have the highest percentage of seeking outpatient care when experiencing health complaints, with a rate of 37.48%, compared to those who use the internet. This suggests that elderly individuals without internet access are more inclined to seek outpatient care when facing health complaints. This may be attributed to the fact that some elderly individuals perceive the internet as a complex tool, given the generational gap, and thus are less able to utilize it to access information regarding their health concerns.

It can be seen that the elderly population with health insurance demonstrates the highest percentage of seeking outpatient care when experiencing health complaints, with a rate of 36.87%, compared to those without health insurance. This indicates that elderly individuals with health insurance are more likely to seek outpatient care when facing health issues. This trend can be attributed to the fact that health insurance facilitates access to healthcare services by alleviating financial barriers, thereby making it easier for individuals to obtain necessary care and receive financial assistance in terms of costs, thus enhancing their overall experience with healthcare services [11].

Additionally, it is observed that the elderly population residing in rural areas exhibits a higher percentage of seeking outpatient care when experiencing health complaints, with a rate of 39.17%, compared to their urban counterparts. This suggests that elderly individuals in rural areas are more likely to utilize outpatient healthcare services when experiencing health issues. This may be influenced by the fact that urban environments tend to have higher levels of pollution, which can lead to a greater frequency of health complaints [8].

Moreover, the elderly population with a disability status shows the highest percentage of seeking outpatient care when experiencing health complaints, with a rate of 40.15%, compared to those without disabilities. In other words, elderly individuals with disabilities have a higher propensity to utilize healthcare services, particularly outpatient care. This is likely due to the more complex health conditions faced by elderly individuals with disabilities, which heightens their need for healthcare services.

Regarding the variable of activity impairment, it is observed that the elderly population with impaired activity when experiencing health complaints demonstrates a higher percentage of seeking outpatient care, with a rate of 37.51%, compared to those whose activities remain unimpaired. This suggests that elderly individuals whose daily activities are disrupted by health complaints are more likely to seek outpatient care. This can be explained by the discomfort and difficulty these individuals experience in performing daily tasks due to their health conditions, which encourages them to seek medical assistance in the form of outpatient care.

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Variables Affecting the Outpatient Behavior of the Elderly Population of West Sulawesi in 2022

The next step is to determine the independent variables that affect the outpatient behavior of the elderly population in West Sulawesi Province in 2022 through inferential analysis with binary logistic regression through the backward elimination method as follows.

Simultaneous Parameter Significance Testing

Simultaneous parameter significance testing was carried out using the likelihood ratio (G) test.

Table 3. Simultaneous test results

	Test Statistic G	**df**	***p-value***
Model	20,419	5	0,001**

Source: Susenas Data March 2022 (retrivied)
Note: **significance at $\alpha = 0{,}05$

From the test results that can be seen in Table 3, the G-test value is 20.419 with a p-value of 0.001 which is smaller than the 5% significance level. Therefore, it can be concluded that with a significance level of 5%, there is enough evidence to show that there is at least one independent variable that affects the outpatient care behavior of the elderly population in West Sulawesi in 2022. In other words, there is an influence of the variables of marital status, education level, disability status, and activity impairment together on the outpatient care behavior of the elderly population in West Sulawesi Province in 2022.

Partial Parameter Significance Testing

Partial parameter significance testing was carried out using the Wald test. The test results for each independent variable in the binary logistic regression model are presented in the following table.

Table 4. Partial test results

Variable	**Category**	$\widehat{\boldsymbol{\beta}}$	**S.E**	***Wald***	***p-value***
Intercept		-1,523	0,281	29,391	0,000**
Marital status	0 = not married*				
	1 = married	0,575	0,231	6,191	0,013**
Education level	0 = primary education*			5,665	0,059
	1 = secondary education	0,814	0,352	5,333	0,021**
	2 = higher education	-0,131	0,424	0,096	0,757
Disability status	0 = non-disable*				
	1 = disable	0,571	0,238	5,773	0,016**
Activity impairment	0 = unimpaired*				
	1 = impaired	0,461	0,225	4,193	0,041**

Source: Susenas Data March 2022 (retrivied)
Note: * reference category
** significance at $\alpha = 0{,}05$

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From the test, it was found that the independent variables that partially influenced the outpatient care behavior of the elderly population in West Sulawesi Province in 2022 were marital status, education level, disability status, and activity impairment. This is supported by the resulting p-value less than the 5% significance level. Therefore, with a significance level of 5%, there is enough evidence to show that marital status, education level, disability status, and activity impairment partially influence the outpatient care behavior of the elderly population in West Sulawesi Province in 2022.

Equation Formation

The binary logistic regression equation is as follows.

$$ln\left(\frac{\hat{\pi}_{ij}}{1-\hat{\pi}_{ij}}\right) = -1{,}523 + 0{,}575D_3 + 0{,}814D_{51} - 0{,}131D_{52} + 0{,}571D_9 + 0{,}461D_{10} \quad (7)$$

Model Fit Test

The model fit test was conducted using the Hosmer-Lemeshow test.

Table 5. Goodness of Fit results

Chi-square	**df**	***p-value***
4,533	8	0,806

Source: Susenas Data March 2022 (retrivied)

The results of testing the suitability of the model using the Hosmer-Lemeshow test resulted in a p-value of 0.806 which is greater than the 5% significance level. Therefore, it can be concluded that with a significance level of 5%, there is enough evidence to show that there is no difference between the observations and the predictions of the model. In other words, the model used is suitable in explaining the outpatient care behavior of the elderly population in West Sulawesi in 2022.

The Trends of Variables Affecting the Outpatient Behavior of the Elderly Population of West Sulawesi in 2022

The odds ratio value for the marital status variable with the married category is 1.777. This indicates that the elderly population who are married are 1.777 times more likely to seek outpatient care when experiencing health issues compared to their unmarried counterparts. These findings align with the research conducted by Lumbangaol and Nadjib which states that marital status significantly influences the utilization of outpatient healthcare services. According to their study, individuals who are married are 1.69 times more likely to utilize outpatient services than those who are unmarried or divorced, whether living or deceased [15]. This can be attributed to the fact that individuals with a partner are more inclined to share health-related information, as partners tend to care for one another in daily life. [6]

The odds ratio for the education level variable, specifically for the secondary education category, is 2.257. This indicates that elderly individuals with secondary education (defined as having completed senior high school or its equivalent) are 2.257 times more likely to seek outpatient care when experiencing health issues compared to those with a basic education (defined as having completed at least junior high school or its equivalent). In other words,

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elderly individuals with an intermediate level of education demonstrate a greater concern for their health, which prompts them to seek outpatient care when encountering health complaints. This phenomenon can be attributed to the fact that education enhances an individual's awareness of the importance of health, thereby motivating them to utilize available healthcare services. [17].

The odds ratio for the disability status variable, specifically for the disability category, is 1.770. This suggests that elderly individuals classified as disabled are 1.770 times more likely to seek outpatient care when experiencing health complaints compared to their non-disabled counterparts. This finding is consistent with research conducted by Gudlavalleti et al., which indicates that individuals with disabilities have a significantly greater need to visit hospitals compared to non-disabled individuals [7].

The odds ratio for the activity impairment variable, specifically for the impaired category, is 1.586. This implies that elderly individuals whose activities are impaired are 1.586 times more likely to seek outpatient care when experiencing health complaints, compared to those whose activities remain unimpaired. In other words, elderly individuals whose daily activities are disrupted due to health complaints are more inclined to utilize outpatient care services. This observation aligns with research by Ahmad et al., which highlights that activity impairment significantly influences the healthcare-seeking behavior of the elderly population [1]. This can be explained by the fact that individuals who perceive their pain as mild and not interfering with daily activities are more likely to delay or even forgo seeking outpatient care.

5. CONCLUSION

Based on the research results previously described, it can be concluded that 36.39% of the elderly population in West Sulawesi sought outpatient care in 2022 when experiencing health complaints. Furthermore, the variables of marital status, education level, disability status, and activity impairment were found to significantly influence the outpatient care-seeking behavior of the elderly population in West Sulawesi in 2022. The elderly population in West Sulawesi in 2022 who are married, have a secondary education category (graduated from at least senior high school/equivalent), are categorized as disabled, and have impaired activity when experiencing health complaints have a greater propensity to utilize outpatient health services.

REFERENCES

[1] Ahmad, I., Ayu, D., & Barikha, L. (2022). Faktor-faktor yang memengaruhi penduduk lanjut usia berobat jalan di Provinsi Jawa Timur. *Jurnal Kependudukan Indonesia*, *17*(1), 2022. https://doi.org/10.14203/jki.v17i1.723

[2] Andersen, R., & Newman, J. F. (2005). Societal and Individual Determinants of Medical Care Utilization in the United States. *The Milbank Memorial Fund Quarterly Health and Society*, *February 1973*. https://doi.org/10.1111/j.1468-0009.2005.00428.x

[3] Astuti, R., Nurmainah, N., & Fakultas, R. S.-J. M. F. (2020). Deteksi Peresepan Obat yang Tidak Tepat pada Pasien Lansia Rawat Jalan Di Klinik Penyakit Dalam RSUD Sultan Syarif Mohamad Alkadrie. *Jurnal Ilmiah Farmasi Fakultas Kedokteran UNTAN*, *1*(1), 1–4. https://jurnal.untan.ac.id/index.php/jmfarmasi/article/view/54125

[4] Badan Pusat Statistik (BPS). (2022). *Statistik Penduduk Lanjut Usia 2022*.

[5] Badan Pusat Statistik (BPS). (2023). *Statistik Indonesia 2023*.

[6] Chen, C. C., Lin, Y. J., & Lin, Y. T. (2013). Awareness and utilization of preventive care services among the elderly under National Health Insurance. *International Journal of Health Care Finance and Economics*, *13*(3–4), 247–260. https://doi.org/10.1007/s10754-013-9128-3
[7] Gudlavalleti, M. V. S., John, N., Allagh, K., Sagar, J., Kamalakannan, S., Ramachandra, S. S., Shamanna, B. R., Noe, C., Pant, H. B., Soji, F., & Mani, S. (2014). Access to health care and employment status of people with disabilities in South India, the SIDE (South India Disability Evidence) study. *BMC Public Health*, *14*(1), 1–8. https://doi.org/10.1186/1471-2458-14-1125
[8] Handayani, L., & Siswanto. (2002). Pola Keluhan Kesakitan Penduduk Indonesia (Analisis Data Susenas 2001). In *Buletin Penelitian Kesehatan* (Vol. 30, Issue 4, pp. 189–200).
[9] Heryanah. (2015). Ageing Population Dan Bonus Demografi Kedua Di Indonesia. *Populasi*, *23*(2), 1. https://doi.org/10.22146/jp.15692
[10] Hosmer, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied Logistic Regression Third Edition*.
[11] Iskandar, A., Farich, A., Angelina, C., Aryawati, W., & Yanti, D. E. (2023). Faktor yang Berhubungan dengan Pemanfaatan Pelayanan Kesehatan oleh Lansia di Puskesmas Iringmulyo Kota Metro Tahun 2023. *Jurnal Endurance : Kajian Ilmiah Problema Kesehatan*, *8*(October), 594–614. https://journal.universitaspahlawan.ac.id/index.php/jkt/article/view/16711/13922
[12] KADIN Indonesia. (2023). *Peta Jalan Indonesia Emas 2045*.
[13] Kementerian Kesehatan RI. (1993). *PERATURAN MENTERI KESEHATAN NOMOR: 919/MENKES/PER/X/1993 TENTANG KRITERIA OBAT YANG DAPAT DISERAHKAN TANPA RESEP*. https://doi.org/10.1080/00033799300200371
[14] Kementerian Kesehatan RI. (2021). *Profil Statistik Kesehatan 2021*.
[15] Lumbangaol, H. E., & Nadjib, M. (2023). Determinan Sosial Demografi Pemanfaatan Fasilitas Kesehatan Untuk Berobat Jalan Di Provinsi Sumatera Utara: Analisis Data Susenas Tahun 2019. *Jurnal Kesehatan Tambusai*, *4*(2), 22221–22227. https://doi.org/10.31004/jkt.v4i2.15532
[16] Pramesti, W., Utami, W., & Fitriani, F. (2021). Regresi Logistik Backward Elimination pada Risiko Penyebaran Covid-19 di Jawa Timur. *Variansi: Journal of Statistics and Its …*, *3*(3), 162–170. https://doi.org/10.35580/variansiunm26132
[17] Rabbaniyah, F., & Nadjib, M. (2019). Analisis Sosial Ekonomi dalam Pemanfaatan Fasilitas Kesehatan untuk Berobat Jalan di Provinsi Jawa Barat : Analisis Data Susenas Tahun 2017 Social Economic Analysis in Utilizing Health Facilities for Outpatient Care in West Java Province : Susenas Da. *Jurnal MKMI*, *15*(1), 73–80.
[18] Samosir, N., Siagian, P., & Bangun, P. (2014). Analisa Metode Backward dan Metode Forward Untuk Menentukan Persamaan Regresi Linier Berganda. *Saintia Matematika*, *2*(4), 345–360
[19] Tarmizi, S. N. (2023). *Kesehatan Jadi Upaya Transformatif Menuju Indonesia Emas 2045*. Kemenkes. Diakses pada 22 Mei 2024, https://www.kemkes.go.id/id/rilis-kesehatan/kesehatan-jadi-upaya-transformatif-menuju-indonesia-emas-2045