Utilization of Health Services Among the Elderly in Medan City

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Abstract: The low utilization of health services is a prevalent global issue, particularly in low- and middle-income countries. As the elderly experience a decline in their overall body function and ability, they become more vulnerable to degenerative diseases, which increases the demand for health services and the risk of mortality. The present study aimed to analyze the determinants of health service utilization at the primary level. This cross-sectional study was conducted at 41 community health center in Medan City, North Sumatra Province. A proportional random sampling technique was used to select 485 participants. A structured questionnaire was administered to collect the data. The data were analyzed using the chi-square test and logistic regression. The findings revealed that health service utilization was affected by knowledge (0.002), insurance ownership (0.006), distance (0.004), and family support (0.002). The logistic regression test demonstrates that distance is the most influential factor (PR=10.067 (2.797-22.714)). Hence, it can be inferred that the utilization of health services by older adults is affected by their knowledge, insurance ownership, distance, and family support. Stakeholders are advised to guarantee convenient transportation access to overcome the challenge of distance to healthcare centers.

1 INTRODUCTION

The increasing elderly population requires special attention because their healthcare needs tend to rise along with the growing risks of degenerative diseases and healthcare costs (Abdi et al., 2019; Sambamoorthi et al., 2015). The cumulative chronic pathological processes in the elderly make it challenging to recover from disease, and the growing symptoms remaining from disease progression contribute to the severity of other illnesses (Fan et al., 2021). Declining memory, reduced hearing ability (presbycusis), and vision impairment (presbyopia) can limit physical mobility in older adults (Amarya et al., 2018). Furthermore, psychological disturbances, such as the loss of a life partner, can exacerbate the above conditions, often leading to fatal outcomes (Stahl et al., 2016).

The increase in the elderly population is occurring globally as a consequence of technological and healthcare advancements as well as improved socioeconomic levels. It is estimated that by 2050, the elderly population will double to 2.1 billion, with 80% residing in low- and middle-income countries (WHO, 2022). Data from SUSENAS 2022 indicate that the elderly population in Indonesia constitutes 10.48% of the total population with a dependency ratio of 16.09 ((BPS, 2022). The demographic shift among the elderly requires special attention from the government, particularly regarding access to both physical and mental healthcare (Chen et al., 2023). The WHO mandated reforms in healthcare and long-term care systems for the elderly in 2016, aiming to enable them to optimize physical and mental health throughout their lifetimes (WHO, 2016). Therefore, efforts are needed to enhance the access and

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affordability of healthcare services for the elderly and address existing barriers.

Ease of access to healthcare is crucial for improving healthcare service quality. Understanding the factors with significant impacts is essential to formulate effective strategies to overcome barriers to accessing healthcare among the elderly. The interactions among individuals, families, the environment, and the healthcare system can be explained by the concept of access to healthcare (Din et al., 2014). Elderly people have specific needs in terms of both the physical and psychological aspects of daily activities. Limitations such as declining physical abilities, income, and therapy needs can affect the quality of life and self-actualization (Putri & Lestari, 2018). Reduced physical capabilities in the elderly can lead to decreased economic capacity, subsequently limiting their social mobility (Quinn & Cahill, 2016). Various factors influence healthcare service utilization among the elderly, including individual, family, community, and healthcare system factors (Hlaing et al., 2020; Lin et al., 2020; Zeng et al., 2022).

Previous studies have emphasized the importance of knowledge in shaping health behavior changes and health-seeking behavior (He et al., 2016; Teo et al., 2021). Health insurance ownership has also been reported as a predictor of healthcare service utilization and can reduce inequality in the elderly population (Dalinjong et al., 2017; Laksono et al., 2023; Siongco et al., 2020). Healthcare service disparities due to distance from healthcare facilities have been reported in studies conducted in Yangon and Texas ((Hlaing et al., 2020; Smith et al., 2019). Research in Indonesia and China has concluded that both financial and non-financial family support is a crucial factor in encouraging the elderly to access healthcare services (Cahyawati et al., 2020; Yuan et al., 2022).

Medan is the third largest city in Indonesia and the largest city on the island of Sumatra. Data gathered from routine reports by the Medan City Health Department indicate that the elderly population in the city will amount to 186,196 people in 2022. Several previous studies only involved one community health center, thus having limitations in representing the elderly population in the city of Medan as a whole (Nasution, 2019; Siregar et al., 2015; Yollanda & Zulfendri, 2018). This study will provide a more comprehensive and representative overview of the primary healthcare access challenges faced by the elderly in the city of Medan. Therefore, the results of this study can provide a deeper and more relevant understanding in designing policies and intervention programs that are in line with the real needs of the elderly population in Medan. This study aimed to analyze the relationship between knowledge, health insurance ownership, distance to healthcare facilities, family support, and healthcare service utilization among the elderly in Medan

2 METHODS

2.1 Study Design

This cross-sectional study was conducted at 41 community health centers in Medan. This research was conducted from June 2023 to August 2023.

2.2 Participant

The sample for this study consisted of 485 elderly individuals obtained using the Lemeshow formula. In recruiting research subjects, proportional random sampling techniques were used to ensure that the number of subjects was aligned with the population size at each health center. The study included elderly individuals aged ≥ 60 years, proficient in reading, and willing to provide informed consent.

2.3 Data Collection

Data were collected using structured questionnaires and observational sheets. The questionnaire was divided into six sections: The first section contained questions about the subjects' sociodemographic information. The second section consisted of nine questions on knowledge, and the third section contained questions on health insurance ownership. In the fourth section, the researcher inquired about the distance (in kilometers) from the subjects' homes to the community health center. The fifth section comprises six questions about family support in accessing healthcare. The sixth section included the question: "Has the elderly person visited the community health center in the last three months?". All questionnaires were directly distributed to the participants, and during data collection, the researcher was accompanied by healthcare or local officers to ensure the participants' residential addresses.

2.4 Data Analysis

All completed questionnaires were processed using SPSS software version 26. The total scores of the responses on each questionnaire were grouped into

several categories relevant to the operational definition of the variables. Data were statistically analyzed using the chi-squared test and logistic regression analysis. The test results are presented in tables and in narrative form.

2.5 Ethical Consideration

Ethical clearance for this study was obtained from the Research Ethics Commission of Universitas Prima Indonesia with registration number: 090/KEPK/UNPRI/VII/2023.

3 RESULTS

In Table 1, it can be observed that the majority of the elderly fell within the age range of 60-65 years (47.58%), and over half of them were female (67.22%). Only 16.08% of the elderly pursued higher education, while 2.27% did not attend school. More than half of the elderly did not have a monthly income (61.03%), and only 18.76% still had an income exceeding 1.5 million rupiahs per month.

Table 1: Elderly sociodemographic data (n=485)

Characteristic	n	%
Age		
60-64	226	47.58
65-69	170	35.79
≥70	79	16.63
Sex		
Male	159	32.78
Female	326	67.22
Education Status		
No school	11	2.27
Primary school	92	18.97
Middle school	143	29.48
High school	161	33.20
College/Degree	78	16.08
Income per month (Rupiah)		
Nil	296	61.03
< 750.000	31	6.39
750.000 – 1.500.000	67	13.81
>1.500.000	91	18.76

Table 2 shows the frequency distribution based on knowledge, health insurance ownership, distance to healthcare facilities, family support, and healthcare service utilization. The majority of the subjects had insufficient knowledge (75.26%) and possessed health insurance (85.36%). More than half of the respondents indicated that the distance to healthcare facilities was quite far, exceeding 5 km (67.42%). A total of 314 individuals stated that they had received support from their families (64.74%). Only 17.94% had utilized healthcare services in the last 3 months

Table 2: Frequency distribution of research variables

Variable	n	%
Knowledge		
Less	365	75.26
Good	120	24.74
Insurance ownership		
No	71	14.64
Yes	414	85.36
Distance		
Far (>5 km)	327	67.42
Near (≤ 5 km)	158	32.58
Family support		
No	171	35.26
Yes	314	64.74
Health service utilization		
No	398	82.06
Yes	87	17.94

Furthermore, the researcher conducted a chi-square test to determine the significance of the relationship between the predictors and healthcare service utilization (Table 3). Among subjects with poor knowledge, 60.82% did not utilize healthcare services, and only 14.43% did so. In contrast, among respondents with good knowledge, 21.24% did not use healthcare services. The test results indicated a significant relationship between knowledge and healthcare service utilization (0.002). Similarly, concerning health insurance, the statistical test results show a significant relationship between insurance ownership and healthcare service utilization (0.006). Of 71 elderly individuals without health insurance, 50 did not utilize healthcare services. By contrast, among those with insurance, only 13.61% utilized healthcare services.

In this study, distance to healthcare facilities was associated with healthcare service utilization (0.004). Of the 327 elderly individuals who indicated that their distance to healthcare facilities was quite far, only 61 utilized healthcare services. Family support is also related to healthcare service utilization (0.000). Elderly individuals receiving family support are more likely to utilize health care services.

Next, a logistic regression analysis was conducted to determine the variables or factors that most dominantly influenced healthcare service utilization. From the bivariate analysis, it was evident that all predictors met the criteria for inclusion in the logistic regression analysis ($p<0.250$).

Table 3: Relationship between knowledge, insurance ownership, distance, and family support with health service utilization

Variable	Health service utilization		p
	No	Yes	
	n (%)	n (%)	
Knowledge			
Less	295 (60.82)	70 (14.43)	0.002
Good	103 (21.24)	17 (3.51)	
Insurance ownership			
No	50 (10.31)	21 (4.33)	0.006
Yes	348 (71.75)	66 (13.61)	
Distance			
Far (>5 km)	266 (54.85)	61 (12.58)	0.004
Near (≤ 5 km)	132 (27.22)	26 (5.36)	
Family support			
No	146 (30.10)	25 (5.15)	0.000
Yes	252 (51.96)	62 (12.78)	

The results of the analysis indicate that the most dominant predictor influencing the utilization of community health center services by the elderly in Medan was distance. With a PR value of 10.067, it can be projected that elderly individuals with a long distance to healthcare facilities have a tendency to not utilize healthcare services 10.067 times. This finding underscores the significance of accessibility to healthcare services.

Table 4: Dominant factor for health service utilization

Variable	p	PR	95% CI
Knowledge	0.242	1.415	1.034 – 2.545
Insurance ownership	0.007	8.469	2.797 – 22.714
Distance	0.002	10.067	2.455 – 44.714
Family support	0.124	0.668	1.956 – 3.341

4 DISCUSSION

The utilization of health services by the elderly is an important and complex topic. Ideally, primary healthcare facilities such as community health centers should provide comprehensive services for the elderly. Beyond focusing on primary treatment and rehabilitation, these centers need to offer both physical and mental health education services as a form of promotive and preventive care to enable the elderly to manage their health independently. Numerous factors can influence the elderly's utilization of available health services. This study focused on several aspects, such as the elderly's knowledge about health services, health insurance ownership, distance from their residence to health facilities, and family support.

The results indicate that knowledge significantly predicts health-service utilization. In this study, elderly individuals with limited knowledge were less likely to use health services. Knowledge is crucial for motivating the elderly to explore and access health information. This finding aligns with those of several previous studies (Mosadeghrad, 2014; Rahmadani et al., 2022; Vorrapittayaporn et al., 2021). Limited information receipt may lead the elderly to lack interest in visiting health facilities, even for medical checkups. One study reported infrequent health check-ups due to insufficient information (Chien et al., 2020). Additionally, most older people in this study had high school education. A study in the Philippines reported an association between education level and health knowledge (Hoffmann & Lutz, 2019).

The elderly also need adequate health insurance to cover health service costs. Statistically, there was a significant relationship between health insurance ownership and health service utilization. Although most elderly individuals have health insurance, only a few use health services. This is possibly due to public concerns about disparities in medical services provided by community health centers for patients with social insurance (JKN). A study in Manado reported community reluctance to use JKN for treatment because of negative perceptions (Rumengan et al., 2015). Another study mentioned that patients with JKN complained about short examination and consultation durations, giving a rushed impression (Rochmah et al., 2020). The study results also indicate that family support significantly encourages the elderly to access health services. Families can assist the elderly in various ways such as escorting them to health facilities, helping them understand medical information, and providing emotional support(Schulz et al., 2020). Additionally, families can engage in discussions with health care professionals and make informed decisions about elderly care, especially in managing chronic diseases (Alqahtani & Alqahtani, 2022).

In this study, the distance to health facilities was also significantly associated and was the most dominant predictor of elderly health services utilization. This finding is consistent with that of a study conducted in Ethiopia (Girma et al., 2011). Elderly individuals from health facilities find it challenging to travel, especially if they have mobility limitations or lack access to reliable and friendly

transportation. Moreover, if transportation costs are perceived as high, it becomes a consideration for the elderly to seek health services. A study in China reported barriers faced by the elderly despite the reasonable distance to health facilities. Traffic congestion, public transportation inconvenience, and fare issues are the reasons for their lack of access to health services (Li et al., 2022). Steps that can be taken include encouraging the government to make changes in an elderly friendly environment, especially in public spaces and transportation facilities, thus making them easily accessible. Increasing the number of health facilities could be an additional option, particularly in urban areas with inadequate public transportation.

5 CONCLUSIONS

The results indicate that knowledge, health insurance, distance, and family support are significantly associated with the utilization of health services by the elderly. Space emerged as the most dominant predictor influencing the elderly to seek healthcare services at health facilities. Elderly individuals with good knowledge, health insurance, proximity, and strong family support are more likely to use health services than those without these factors. Community health centers are recommended to enhance the quality and availability of healthcare services for the elderly, especially in terms of health information, and promote family involvement in healthcare. Additionally, the government is encouraged to provide elderly friendly and cost-effective transportation facilities.

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