

Diabetes Self-Care Management Among the Elderly in Rural Areas

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Abstract

Diabetes mellitus is susceptible to being experienced by the elderly because of physiological changes caused by the aging process. Diabetes mellitus will accompany the sufferer for life, so the elderly must be able to carry out diabetes self-care management to optimize metabolic control and prevent diabetes complications. In implementing diabetes self-care, this management will certainly be influenced by the characteristics of the sufferer. This study aims to explore the characteristics of elderly with diabetes mellitus in managing their diabetes self-care management in rural areas. The quantitative descriptive research method, with a cross-sectional approach, was carried out among 100 elderly with diabetes mellitus utilizing the purposive sampling method. This research instrument uses The Summary of Diabetes Mellitus Activities. Univariate analysis was performed using frequency distribution. The results of this study show that 57% of the elderly in rural areas had poor diabetes self-care management. Usually related to the characteristics of the elderly with diabetes mellitus which can influence treatment in managing the disease. This study concludes that there are still elderly people who do not carry out diabetes self-care management independently in their daily lives. This research emphasizes the need for knowledge and awareness to be provided in rural areas regarding Diabetes self-care management. Structured programs need to be designed to improve the behavior of the elderly to promote better adherence to diet, exercise, medication adherence, and proper foot care.

INTRODUCTION

The prevalence of diabetes in Indonesia proceeds to extend, with the most recent information appearing that in 2021 there were around 19.5 million individuals with diabetes. This figure is anticipated to extend to 28.6 million by 2045 (Sumarni et al., 2024). Indonesia positions fifth within the world in terms of the number of diabetics, with projections showing that the number of individuals with diabetes will continue to increase along with high sugar consumption patterns and unhealthy lifestyles (Asyikin, Nurisyah, & Dewi, 2024).

Diabetes mellitus manifests as a chronic metabolic disorder that can lead to damage to the target organs and has serious consequences (Gadó, Tabák, Vingender, Domján, & Dörnyei, 2024). Strict metabolic control can be achieved through lifestyle modifications, regular medication, and periodic follow-up can be very helpful in preventing complications of the disease (Fitriani & Sanghati, 2021). To achieve this, individuals with diabetes mellitus require great diabetes self-care management. Diabetes self-care

adequate management in terms of diet, medication, and exercise helps maintain normal blood glucose levels in patients with diabetes mellitus (Susanto, 2021). In addition, regular foot care helps protect against diabetic foot ulcers and amputations (Rahmasari, Yudhianto, Putri, & Widyastuti, 2022).

Diabetes self-care management may be an illness management action carried out at home by individuals with diabetes mellitus (Rahmasari et al., 2022). This will offer assistance to improve their quality of life and anticipate complications from the disease. Seniors with great diabetes self-care have a better chance of accomplishing good glycemic control and decreasing cardiovascular risk and vice versa (Busebaia, Thompson, Fairbrother, & Ali, 2023). In rural areas, many seniors face difficulties in getting accurate information about diabetes and its management, as well as limitations in accessing needed medicines or medical devices.

Diabetes self-care poor management may compound clinical parameters with glycemic control (Zhang et al., 2023). Within the treatment of diabetes,

disease management by the sufferer is the most premise that most premise that's accepted to extend mindfulness of the disease and increase prevention efforts against the disease. However, the practice of diabetes self-care management depends on the characteristics of the sufferer (Milita, Handayani, & Setiaji, 2021). In addition, compliance and improvement of self-care and minimizing barriers to self-care can be done by focusing on diabetes care education and support programs related to the promotion of self-management activities for elderly people with diabetes (Lee & Jihyun Oh, 2020).

Based on the above background, researchers feel the need to assess diabetes self-care management which has significant benefits for patients' compliance with disease treatment and prevent complications. This study was conducted to assess diabetes self-care behavior in the management of the elderly with diabetes in rural areas.

METHOD

This study is a community-based cross-sectional study in a rural area, namely in the Working region of the Jenggawah Public Health Center, Jember Rule, East Java Area. The research sample amounted to 100 people who were carried out with purposive sampling techniques, with the inclusion criteria of people with diabetes mellitus over 45 years old who suffered from diabetes for more than 1 year. The variable of this study is diabetes self-care management.

Data collection was carried out in agreement with research instruments. Already, respondents were inquired to fill within the informant. The investigate instrument utilized the questionnaire The Summary of Diabetes Mellitus Activities, created by Toobert, Hampson, and Glasgow to degree the self-care activities of individuals with diabetes mellitus (Toobert, Hampson, & Glasgow, 2000). This instrument covers 5 domains, specifically dietary designs, exercise, medicine compliance, foot care, and smoking, which have been pronounced valid and reliable. Once the information is collected, the following arrange is to organize and verify the information gotten. Univariate analysis was carried out on respondent characteristic data and indicators from the research variables. This research has also been declared ethically feasible in May 2024 with certificate number 570/KEPK/UDS/VI/2024.

RESULTS AND DISCUSSION

Results

Table 1. Demographic variables of the study group

No.	Assessment Aspects	Frequency (n=100)	Percentage (%)
1.	Age		
	45-60 Years old	34	34
	>60 Years old	66	66
2.	Sex		
	Male	17	17
	Female	83	83
3	Education		
	Illiterate	13	13
	Primary	35	35
	Middle School	28	28
	Higher School	17	17
	Graduation	7	7
4	Occupation		
	Unemployed	35	35
	Employed	65	65
5	Monthly Income		
	Less than 1000000	53	53
	More than 1000000	47	47
6	Marital status		
	Married	69	69
	Unmarried	31	31
7	Duration of Diabetes		
	<5 years	54	54
	>6 Years	46	46

Source: Statistics Agency for the year 2024

Table 1 appears the dissemination of statistic characteristics of the study respondents. Among the 100 respondents, 83% were women, aged >60 years (66%), with a junior high school education level (28%). The majority of respondents do not work (65%) and have a lower middle socioeconomic status (53%). The duration of diabetes mellitus was less than five years among 54% of respondents.

Table 2. Diabetes Self-care Management

DSCM	Frequency	Percentage
Good	24	24
Moderate	19	19
Poor	57	57

The comes about of the study in Table 2 indicate that diabetes self-care management among elderly with diabetes mellitus living in rural areas falls predominantly into the poor category (57%).

Discussion

This study was conducted in rural areas by watching the hone of diabetes self-care management of the elderly with diabetes mellitus, the come about were gotten that most of them have diabetes self-care management missing. This is can be in line with a few past thinks about, the larger part of diabetic mellitus patients have poor self-care scores (Hidayat, Erika, & Sjattar, 2024). In rural areas, several barriers are recognized as limiting self-care activities, such as education, employment, income, and the length of suffering from diabetes mellitus (Naralia et al., 2024).

Elderly sufferers are prescribed to live a solid way of life by carrying out self-care management for the illness they endure from, to be spesific diabetes self-care management which incorporates diet, exercise, foot care, pharmaceutical compliance, and smoking (Lv, Yu, Cao, & Xia, 2021). This may well be since this research was conducted in rural areas that don't have less demanding get to health-related activities (Camargo-Plazas et al., 2022). Past investigate has appeared that there's a noteworthy relationship between the patient's remain and his self-care behavior. Where the elderly with diabetes who live in rural areas hone less self-care than those who live in urban areas (Vernanda & Sari, 2024).

In this study, it was found that the larger part of respondents had an elementary school education level. Based on past investigate, it was said that individuals with diabetes mellitus with moo levels of education were more likely to perform poor self-care activities than those with higher education (Roza, Marlita, Roberto, & Siregar, 2022). This will be since patients with the next level of education can have the next intrigued in overseeing their illness so that they ended up mindful and take after the treatment program (Nadatién, Puspita, Kartini, Setiyowati, & Hidayah, 2024).

The findings of the study show that most of the respondents are still working but with low income, which can affect the practice of diabetes self-care management carried out (Stotz, Ricks, Eisenstat, Wexler, & Berkowitz, 2021). In line with previous research, it shows that the lower middle economic social class is significantly at higher risk of doing less self-care practices compared to other groups (Houle et al., 2016). It can be accepted that individuals with lower socioeconomic status have less get to suitable data with respect to diabetes self-care management (Kim, 2023). In expansion to the taken a toll of treatment calculate that's a boundary, the state of mind

of patients towards diabetes self-care management has to be altered and reinforced in these social bounches (Rahman, Nakamura, Hasan, Seino, & Mostofa, 2020).

Overall, the research indicated that diabetes self-care management among elderly individuals with diabetes mellitus living in rural areas remains insufficient (Ishwari Adhikari & Santosh, 2021). This issue may stem from limited awareness and understanding of diabetes self-care management in rural areas (Gupta, Lakshmi, Chakrapani, Rastogi, & Kaur, 2024). Hence, a crucial initial step in addressing diabetes mellitus is to enhance knowledge about the significance of independently managing the condition at home (Amerzadeh et al., 2024).

Other studies by Bartkeviciute, Riklikiene, Kregzdyte, & Lesauskaite (2023) It shows that diabetic patients in rural areas have a poorer quality of care compared to patients in urban areas. Factors such as lack of outpatient visits, limited access to specialists (e.g. endocrinologists), and limited health resources are the main causes. Individuals living in rural areas often have limited access to diabetes education and fewer eye and foot examinations, which negatively impacts their ability to manage the condition effectively (Foss et al., 2023).

Previous research conducted in rural Latin America showed similar results that some elderly people in rural areas were irregular in checking blood sugar levels and had difficulty following the recommended treatment program. In addition, other studies conducted in Indonesia revealed that the elderly in rural areas often neglect their self-care, largely due to the inability to access adequate health information. The study highlights the importance of social support, which is often more limited in rural areas, thus influencing the success of diabetes self-care management (Arianti, Winahyu, & Hastuti, 2023). In contrast to the elderly in urban areas, where the elderly tend to be more exposed to health information through various media so that it is possible to have better knowledge about diabetes management and the significance of a sound way of life.

The discoveries of this think about can moreover be an indicator of the need of fitting outreach activities by wellbeing groups in rural areas, causing sufferers to be in capable to hone diabetes self-care management. There is a greater need to conduct periodic program evaluations and identify risks, where health workers are expected to be able to conduct regular home visits to assess, monitor, and provide assistance regarding diabetes self-care manajemen

(Rohani, Handayani, & Yusnaini, 2024). The wellbeing group must teach the elderly with diabetes mellitus approximately the 5 components of diabetes self-care management, including diet, exercise, medical care, foot care and not smoking (Davis, 2017). Organized programs ought to be arranged to progress adherence to diet, exercise, pharmaceutical adherence, and legitimate foot care (Vitaliati, Silvanasari, Maurida, & Basri, 2024). Wellbeing group must center on wellbeing advancement programs related to behavioral changes for the elderly with diabetes mellitus in rural areas. A vital approach to wellbeing proficiency that centers on the elderly with diabetes mellitus will be exceptionally advantageous.

CONCLUSION

Elderly people with diabetes mellitus in rural areas have diabetes self-care management which is included in the poor category. So that community nursing-based health education and the involvement of health workers can significantly increase compliance with diabetes self-care management.

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