

Overview of the Level of Activity Daily Living of the elderly who have chronic diseases in the Geriatric Polyclinic of the State General Hospital

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ABSTRACT

Introduction: The increase in the elderly population will of course be accompanied by an increase in the risk of suffering from chronic diseases which can accelerate functional decline and reduce the ability of the elderly to carry out important activities in daily living Activities of Daily Living (ADL).

Objectives: The aim of this study was to obtain a more comprehensive picture of the level of ADL independence in elderly people with chronic diseases.

Methods: This type of research is descriptive with a cross-sectional study design. The research sample of elderly people who had chronic diseases was 63 elderly people selected using consecutive sampling. The research instrument uses the Barthel Index.

Results: The results of the study showed that of the 63 elderly people, the majority of the 39 elderly people (61.9%) who had chronic diseases experienced a mild level of dependence in carrying out daily living activities.

Conclusions: Chronic diseases can affect the functional abilities of elderly people in living their daily lives. The importance of educating the elderly and their families about chronic disease management, providing support to increase independence, as well as developing intervention programs that can improve the elderly's ability to carry out Activities of Daily Living (ADL).

Introduction

The elderly, as the last age group in the human life cycle, are increasing in number worldwide (Azizah, 2018). The growth of the elderly population is increasing. The population aged 65 and over is growing faster than the population below that age (ONU, 2022). According to WHO (2022), by 2030, one in six people in the world will be aged 60 or over. Currently, the number of people aged 60 and over is projected to increase from 1 billion in 2020 to 1.4 billion and to reach 2.1 billion by 2050. In addition, as life expectancy increases, the number of older people (80 years and over) will also increase, estimated to reach 426 million in 2050, three times the number in 2020 (Badan Pusat Statistik Provinsi Bali, 2020; BPS, 2023).

In Indonesia, according to data from the Central Bureau of Statistics based on the 2016 Population Survey Between Censuses, the number of older people is estimated at 22,630,882. Recent projections show that this number will increase to 31,320,066 by 2022 (Pangribo, 2022). In Bali Province itself, the number of elderly people (60 years and over) will reach 12.88% (555.26 thousand people) by 2020 and will increase to 19.74% (923.23 thousand people) of the total population of 4.68 million by 2035. This indicates that Bali Province has entered the phase of an ageing population age structure, with the proportion of the elderly population already exceeding 10% (Badan Pusat Statistik, 2022). Klungkung Regency has the highest number of



elderly population with 16.62% and Jembrana Regency which ranks seventh out of 11 regencies/cities with 11.87% of elderly population (Badan Pusat Statistik Provinsi Bali, 2020).

An increase in the number of older people also has the potential to increase the risk of chronic diseases such as diabetes mellitus, cerebrovascular disease, coronary heart disease, osteoarthritis and others (Sihaloho, 2021). Data from the Department of Economic and Social Affairs (2021) shows that about 70% of older people worldwide die from chronic diseases such as heart disease, stroke and diabetes. The National Commission on the Elderly in 2021 also found that the most common chronic diseases suffered by the elderly are joint diseases (52.3%), hypertension (38.8%) and cataracts (23%) (Kementerian Kesehatan Republik Indonesia, 2022).

According to Hutapea (2020) found that around 50-80% of elderly ≥ 65 years suffer from more than one chronic disease. Chronic diseases not only cause permanent damage to the body but also affect the independence of the elderly in living their daily lives, especially in terms of Activity of Daily Living (ADL) (Darmawati & Kurniawan, 2021). ADL is a person's independence in carrying out daily living activities and functions that are routine and commonly carried out by humans and independence in the elderly is important in meeting their basic needs (Fauji, 2020). ADL consist of standard activities such as eating, dressing, defecating, and bathing, as well as more complex instrumental activities (Sonza et al., 2020). The Barthel Index is often used to measure ADL independence, which reflects the level of dependence of the elderly on family or caregiver assistance (Padila, 2018).

According to Savitri (2021) found that elderly people with chronic diseases such as arthritis, stroke and hypertension often experience dependence in carrying out their ADLs, requiring external help for daily activities. The level of independence of elderly people with rheumatoid arthritis in carrying out Activity Daily Living (ADL) shows that out of 63 elderly people, as many as 27 people (42.8%) elderly people have a level of independence in the category of moderate dependence, where they rely more on tools or help from others in carrying out their daily activities. The level of independence of elderly people with rheumatoid arthritis in carrying out Activity Daily Living (ADL) shows that out of 63 elderly people, as many as 27 people (42.8%) elderly people have a level of independence in the category of moderate dependence, where they rely more on tools or help from others in carrying out their daily activities. Research (Smeltzer & Bare, 2013) provided an overview of activities of daily living in elderly patients who had suffered a mild stroke and found that out of 68 elderly people, as many as 34 people (50%) experienced mild dependence. Research (Smeltzer & Bare, 2013) on the level of Activity Daily Living in hypertensive elderly people in Gambirsari Health Centre Region found out of 80 elderly people as many as 69 people (86.3%) experienced moderate dependence in Activity Daily Living (ADL). This is due to hypertension suffered for a long period of time, which is closely related to ADL limitations, because chronic diseases in the elderly will trigger them to seek help from family when their hypertension recurs..

Although many studies have been conducted, there is a gap in the literature regarding the impact of chronic disease on the independence of older adults in the Geriatric Polyclinic of the State General Hospital. Previous studies have tended to focus on the prevalence of chronic conditions rather than specifically examining them in relation to ADL independence.

Preliminary studies in July 2023 at the Geriatric Polyclinic of the State General Hospital, obtained data that, in 2022, as many as 538 elderly people with chronic diseases actively carried out control or treatment at the Geriatric Polyclinic. The most common type of chronic disease suffered by the patients was hypertension (26.95%), followed by arthritis (22.30%), diabetes mellitus (15.98%), stroke (10.03%), asthma (9.66%), dyspepsia (9.10%) and gastritis (5.94%). In 2023, there was a significant increase with an average of 60 elderly patients per month, based on data from January to May.



This study aims to provide a more detailed description of the level of ADL independence of elderly people with chronic diseases at the Geriatric Polyclinic of the State General Hospital. It is hoped that the results of this study will provide a better insight into the challenges faced by older people with chronic diseases in maintaining their independence, as well as a basis for the development of more effective care strategies.

Methods

This research uses an analytical descriptive method. The descriptive method is a type of research that seeks to describe the object or subject under study as it is, with the aim of providing a systematic description of the facts and characteristics accurately (Sugiyono, 2018). This research design is cross-sectional, which means that the observation and measurement of variables are carried out at a specific point in time. Each subject is observed only once, and the measurement of variables is carried out at the time of observation, without any follow-up by the researcher on the measurement results (Nursalam, 2016).

This study was conducted in November 2023. The population in this study were all elderly people who had chronic diseases in the Geriatric Polyclinic of the State General Hospital on average per month as many as 74 elderly people. The sampling technique is non-probability sampling with consecutive sampling technique, namely sample research by determining the subjects who meet the research criteria are included in the study until a certain time limit so that the number of respondents is met (Hidayat, 2017). The number of samples in this study was 63 elderly people who met the inclusion criteria during the study period, namely: elderly people with chronic diseases, willing to be respondents, and elderly people with intact intellectual function (score 0-3).

The research tool uses the Barthel Index questionnaire, which consists of 10 components that measure the level of independence of older people in activities of daily living. The Barthel Index is assessed quantitatively by giving a score according to the level of dependence, and categorisation criteria have been established to understand the level of independence of the elderly. This instrument has undergone validity and reliability tests by (Smeltzer & Bare, 2013) with valid ($r = 0.817-0.955$) and reliable ($R = 0.952$) results. Data analysis was performed descriptively by calculating the percentage of each variable. This research has been approved by the Head of the Investment and One-Stop Integrated Service Office of Jembrana Regency with letter number 32/SKP/DPMPSTSP/2023 dated 8 November 2023, and has received research ethics approval with number 180/E1.STIKESWIKA/EC/XI/2023



Results

Table 1 Frequency Distribution of Respondent Characteristics in the Geriatric Polyclinic Room at State General Hospital in 2023

No	Characteristic	Research Results (n=63)	
		Frequency (%)	Percentage (%)
1.	Age		
	60-74 years old	44	69.8
	75-90 years old	19	30.2
2.	Gender	19	30.2
	1) Male	47	74.6
	2) Women	16	25.4
3.	Education		
	1) Not graduated elementary school	24	38.1
	2) Elementary school	6	9.5
	3) Junior high school	6	9.5
	4) Senior high school	12	19.0
	5) Bachelor's degree	15	23.8
4.	Work		
	1) Doesn't work	54	85.7
	2) Farmer	5	7.9
	3) Self-employed	4	6.3
5.	Illness		
	1) Diabetes Mellitus	30	47.6
	2) Hypertension	13	20.6
	3) Rheumatoid arthritis	16	25.4
	4) Hypertension and Stroke	4	6.3
	Total	63	100.0

Based on Table 1, it can be seen that of the 63 elderly, based on age, it shows that most respondents are aged 60-74 years, namely 44 respondents (69.8%), seen from the gender of most men as many as 47 people (74.6%), from education most respondents have not graduated from primary school, namely 24 respondents (38.1%), based on work most of them do not work as many as 54 people (85.7%) and the type of disease suffered by most diabetes mellitus as many as 30 people (47.6%).

Table 3 Frequency Distribution Results Description of Daily Living Activity Levels for Elderly People Having a Chronic Disease with Characteristics at the Geriatrics Polyclinic State General Hospital in 2023

No	Daily Living Activity Level	Frequency (f)	Percentage (%)
1	Independent	22	34.9
2	Light dependency	39	61.9
3	Moderate dependency	2	3.2
	Total	63	100.0

From Table 2 it can be seen that out of 63 elderly people, the level of activity of daily living of elderly people with chronic diseases is mostly in the category of light dependence, namely 39 elderly people (61.9%), independent 22 elderly people (34.9%) and moderately dependent 2 elderly people (3.2%).



Discussion

Characteristics of respondents in the geriatric polyclinic of the State General Hospital in 2023

a. Age of the elderly

The results of the study, based on Table 1, show that most of the elderly are between 60 and 74 years old, as many as 44 respondents (69.8%). This result is consistent with the research (Aria et al., 2019), out of 50 elderly people in the working area of Nusa Indah Bengkulu Health Centre, most, namely 38 elderly people (76%) were 60-74 years old. Research (Yunia, 2022) also found that out of 80 elderly people in the Gambirsari Health Centre area, Surakarta City, most were aged 60-74 years, 69 respondents (86.3%).

As the elderly age, their physical condition tends to deteriorate, making them more vulnerable to health problems (TNP2K 2020). Degenerative diseases such as stroke, falls, osteoarthritis (rheumatism), heart disease and diabetes increase the risk of disability in older people. Therefore, the number of health complaints and morbidity among older people may reflect two things: whether their disability is caused by a worsening health condition, or whether the disability makes them more vulnerable to health problems (BPS, 2023). This is supported by the statement (Ekasari, Fatma M; Riasmini, Made; Hartini, 2018) that some physiological abilities decline with age. With age, the likelihood of illness increases, so the risk of developing a chronic disease is greater.

Researchers assume that, over a period of time, the elderly will experience various deteriorations in the body's organs, which will affect their physical condition. The declining physical condition of the elderly can lead to health problems, making them vulnerable to chronic diseases such as diabetes, hypertension, heart disease, progressive mental disorders, neurological disorders, musculoskeletal disorders and other malignancies.

b. Gender

The findings of the study based on Table 1 show that out of the 63 elderly people, the majority were males as many as 47 people (74.6%). The findings are not consistent with some existing studies where the gender is dominated by females (Muhammad & M Ali, 2022; Suardana & Ariesta, 2019; Sulaiha et al., 2022). The findings of (Suardana & Ariesta, 2019) that gender, men have a level of independence of 70% and light dependence of 30%. For women, 66.7% of the respondents were independent and 33.3% experienced light dependence.

According to (Maryam et al., 2008), older men are at greater risk of chronic disease due to the decline in body function that occurs with age. Changes in body composition cause muscle mass to decrease in men and fat mass to increase in women. This results in a lower basal metabolic rate (BMR) in men, so their calorie, protein and fat requirements are lower than in women. Other factors that increase the risk of chronic disease in older men include unhealthy behaviours such as smoking, alcohol consumption and poor diet. According to (Ekasari, Fatma M; Riasmini, Made; Hartini, 2018) state that men tend to seek health care less regularly than women. Delays in health screening and disease detection can exacerbate chronic conditions. In addition, hormonal changes associated with ageing, particularly lower testosterone levels, can increase the risk of chronic disease in men.

Researchers believe that older men are at greater risk of chronic disease because they tend to adopt lifestyles that increase such risks, such as smoking, excessive alcohol consumption, unhealthy diets and lack of physical activity.

c. Education History

The findings of the study based on Table 1 show that most of the respondents had an education that did not go beyond primary school, namely 24 respondents (38.1%). This finding is in line with the findings of (Sihaloho, 2022; Suardana & Ariesta, 2019; Yunia, 2022) who found



that most of the elderly people had the lowest level of education which was that of a primary school graduate.

According to (Notoadmodjo, s, 2015) the level of education is related to a person's ability to implement healthy living behaviours and awareness of health care. Hapsari (2009) in (Prihati, 2017) people with higher education tend to have better health than those with secondary education, who in turn have better health than those with low education. This suggests that there is a positive relationship between the level of education and a person's health status: the higher the level of education, the better the health status and vice versa.

Researchers assume that people with more education tend to have better health, which may be due to better knowledge of how to manage their health, better access to health information and the ability to use health services more effectively. In contrast, people with lower levels of education may face challenges in understanding health information and accessing appropriate health services.

d. Work History

The results of the study based on Table 1 show that most of the respondents did not work, namely 54 people (85.7%). This finding is consistent with a study (Fadila & Ahmad, 2021) on the determinants of low participation in chronic disease management programmes in puskesmas, where 62 out of 83 respondents (72.9%) did not work.

According to (Suardana & Ariesta, 2019), there are several reasons why many older people with chronic illnesses do not work, one of which is that they are unable to work due to the deterioration of their health condition caused by their chronic illnesses. In addition, older people with chronic conditions often require intensive care, which makes it difficult for them to continue working. Some conditions, such as stroke, diabetes mellitus and cancer, can also lead to a decline in quality of life and loss of physical ability that prevents them from working.

Researchers assume that many older people with chronic conditions do not work because of physical limitations caused by chronic conditions, such as difficulties with mobility or performing physical activities required for work. In addition, some older adults with chronic conditions may choose to focus on their health and improving their quality of life rather than continuing to work, in order to enjoy time with their family or engage in activities that make them happy.

e. Diseases suffered

The results of the study, based on Table 1, show that out of the 63 elderly people, most of them have a history of chronic diseases: diabetes militus, 30 elderly people (47.6%), rheumatoid arthritis, 16 elderly people (25.4%) and hypertension, 13 elderly people (20.6%).

Degenerative diseases or physical pain can lead to a reduction in physical capacity, which in turn makes it difficult to carry out daily activities. The negative effects include disturbances in sleep, nutrition, social interaction and vitality. The unpreparedness of the elderly to face these conditions can increase the psychological burden of the elderly and affect their ability to adapt to these conditions (Muhammad & M Ali, 2022). According to (Wahyuni et al., 2021) chronic diseases reduce functional capacity and can increase other functional disorders. Older people who do not have a history of other chronic diseases tend to have low ADL dependency. This shows that ageing physical conditions can create barriers to performing activities of daily living.

The researcher suggests that chronic diseases are a problem for older people, with diabetes mellitus, rheumatoid arthritis and hypertension being the most common. This leads to reduced physical function, difficulties in performing daily activities and various other negative effects such as sleep disturbance, eating patterns, social interactions and vitality.



Overview of the level of activity in daily living of elderly people with chronic diseases with characteristics at the Geriatric Polyclinic of the State General Hospital in 2023

The results of the study, based on Table 2, show that the majority of older people with chronic diseases (61.9%) experience mild dependence in activities of daily living, while 3.2% experience moderate dependence. Although most of the older people were able to perform activities independently, they still needed assistance in some aspects. The elderly were able to be independent in activities such as eating, but needed help with bathing and self-care. Toileting and defecation activities are fully controlled, but toileting still requires assistance. Older people are able to move around on their own but need help with mobility and getting up and down stairs..

Consistent with the results of the research by (Purba et al., 2022) on the level of independence of the elderly in performing Activities of Daily Living (ADL) in the Mental Winning Home, the level of independence of the elderly is classified as completely independent, namely as many as 18 elderly (90%). Research by (Yunia, 2022) also shows that the level of mild dependence in ADL reaches 86.3% at the age of 60-74.

The results of the study in Table 2 also show that 2 older people (3.2%) are moderately dependent. Chronic disease is an important factor influencing Activity Daily Living (ADL) scores. This is consistent with the findings of (Xu et al., 2019) that the number of chronic diseases is closely related to ADL scores; the more chronic diseases, the lower the ADL score. In this study, 84.5% of older people had one or more chronic diseases.

Another study reported that the presence of multiple chronic conditions over a long period of time can have a major impact on the ADLs of older people. Chronic disease is a major risk factor for disability in older people, as physical disability naturally affects ADL. Long-term medication, which can adversely affect the vision, consciousness and mental state of the elderly, is another risk factor associated with chronic illness (En Okinawa Jepang Alifah Mugi Rahayu et al., 2021; Wahyuni et al., 2021; Xu et al., 2019).

Based on the research presented, it can be concluded that the majority of older people with chronic diseases experience mild dependence in activities of daily living (ADL). Although most older people can still perform some activities independently, they still need help from others, especially with bathing, self-care and mobility.

Conclusion

Patient characteristics based on age, most respondents were aged 60-74 years, namely 44 respondents (69.8%), the most male gender was 47 people (74.6%), most respondents' education was not completed primary school, namely 24 respondents (38.1%), most of them did not work as many as 54 people (85.7%) and the type of disease suffered by most diabetes mellitus as many as 30 people (47.6%).

The level of activity in daily living of the elderly with chronic diseases is mostly in the category of light dependency, namely 39 people (61.9%).

Ethics approval and consent to participate

This research was conducted by tracing medical records that had passed the research ethics test with Etichal clearance number 180/E1.STIKESWIKI/EC/XI/2023 and had received approval from the Authorised Hospital with letter number 800/2077/RSU.N/2023 and from the Jembrana Regency Investment and One-Stop Integrated Services Office with letter number 32/SKP/DPMPSTSP/2023.

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