



(RESEARCH ARTICLE)



Frailty profile among elderly patients in the outpatient medical rehabilitation unit of RSUD Dr. Soetomo, Surabaya, during the period of march-august 2023

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Abstract

The prevalence of the elderly population is increasing, often accompanied by a rise in the prevalence of symptoms related to declining functions caused by the aging process. Findings from a study on frailty conducted in Surabaya's elderly community revealed that 36.7% of subjects were in a frail state, with a higher percentage of females (31.5%) being frail compared to males (5.2%). This indicates a significant prevalence of elderly individuals experiencing frailty syndrome. Consequently, this research aims to determine the incidence of frailty among the elderly in the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital during the period of March-August 2023.

The research objective is to understand the frailty profile in elderly patients at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya during the specified period. This study is a descriptive research type utilizing a cross-sectional survey method. Data processing involves computerized calculations using coding, entry, cleaning, and saving methods. Data analysis is conducted using descriptive methods, and the analyzed data will be presented through tables and diagrams to elaborate on the incidence of frailty in the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital during March-August 2023.

The results of this study indicate a significant incidence of frailty among elderly patients in the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya during the specified period, categorized into three groups. The frailty category comprises 58.2%, the prefrailty category comprises 30.9%, and the robust category comprises 10.9%. The conclusion drawn from this research includes the characteristic data of elderly patients at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya during March-August 2023, encompassing gender, age, frequency of visits, highest education level, body mass index (BMI), ability to perform daily physical activities, and comorbidities.

Keywords: Frailty Profile; Elderly; RSUD Soetomo Surabaya

1. Introduction

According to Regulation of the Minister of Health (PERMENKES) Number 67 of 2015, the term "elderly" refers to individuals aged 60 years and above. An individual in the elderly category is typically approaching the end of life and undergoing the aging process commonly referred to as senescence. Aging results in the deterioration of organ functions and the onset of various physical and psychological illnesses in the elderly. Consequently, the increased prevalence of the elderly population can have both advantageous and detrimental impacts. An increase in the number of elderly

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individuals can have adverse effects if accompanied by a decline in organ system functions, leading to an increased prevalence of diseases in the elderly (PERMENKES, 2015).

The aging process in the elderly group results in the loss of organ functions. Frailty is a syndrome commonly experienced by the elderly, comprising three types of impairments: physical, psychological, and social. Frailty is associated with multiple organ systems, leading to a decline in physiological functions, disruption of adaptive systems, and vulnerability to various stressors. When three out of five frailty criteria are present in the elderly, the clinical criteria established by Fried are utilized to diagnose the frailty syndrome. These criteria include slower walking speed, weakness, particularly in muscles and bones, reduced physical activity, quick fatigue, and weight loss (Wowor & Wantania, 2020).

The current elderly population surpasses other age groups in terms of dominance. The increase in prevalence is also driven by the rising life expectancy of the elderly. According to world demographic data, the elderly population has tripled in the last 50 years, with most of this increase occurring in developed countries. In Indonesia, according to the Central Statistics Agency (BPS) in 2020, there are 26.82 million elderly individuals, accounting for 9.92% of the total population. According to the BPS of East Java Province, the elderly population in Surabaya increased by 8.84% between 2019 and 2020, encompassing 9.16% of the total population in East Java.

The increased frequency in the elderly is often accompanied by a rise in the prevalence of functional impairments caused by aging. Research findings on frailty conducted in the elderly community in Surabaya indicate that 36.7% of individuals are in a frail condition, with females (31.5%) being more frail than males (5.2%). This suggests a considerable number of elderly individuals experiencing frailty syndrome. Therefore, this study aims to determine the prevalence of frailty in the elderly at Dr. Soetomo Regional General Hospital's Outpatient Medical Rehabilitation Unit during the period of March-August 2023 (Widajanti et al., 2020).

2. Material and methods

This research method combines descriptive research with a cross-sectional survey method. The chosen research design utilizes a questionnaire to obtain primary data. The study is conducted at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya, East Java. The research period spans from June 2022 to October 2023. Questionnaire distribution will occur over a 9-month period after the completion of the study, from March to August 2023. The population consists of elderly patients seeking care at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital from March to August 2023. The research sample includes elderly patients at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital who meet inclusion criteria and are willing to participate in the study with informed consent, completing a frailty questionnaire.

Data from the research sample will be used as primary data for this study. The entire research instrument sampling technique is employed in this investigation. Age, gender, education level, BMI (body mass index), daily activities, and frailty are among the characteristics considered in this study. The research instrument utilizes the SPSS 20 software package along with paper questionnaires, pens, and pencils. The data processing involves computer calculations using coding, entry, cleaning, and storage methods. The data will be analyzed using descriptive methods and presented in the form of tables and graphs to elucidate the occurrence of frailty at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital from March to August 2023.

3. Result

The total number of elderly patients included and analyzed in this study is 55 individuals at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital from March to August 2023. All data meet the inclusion criteria and were collected through questionnaires. Characteristics of the elderly at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya from March to August 2023, including gender, age, number of visits, highest education level, body mass index (BMI), ability to perform daily physical activities, and comorbidities, are among the patient characteristics examined in this study.

Based on Table 1, it can be concluded that the characteristics of elderly patients in the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Surabaya Regional Hospital, March-August 2023, are as follows: Female patients outnumber male patients. Patients aged 60-69 years are more numerous than those aged ≥ 70 years. The majority of patients have visited the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Surabaya more than 5 times. Most elderly patients have completed education up to high school (SMA). The majority of elderly patients have a normal BMI. Most

patients are capable of performing daily physical activities without assistance. The majority of elderly patients do not have comorbidities, and the most common comorbidity among elderly patients is hypertension.

Table 1 Characteristics of elderly patients in the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Surabaya Regional Hospital, March-August 2023

Variable	N (%)
Sex	
Male	15 (27.3%)
60-69 years old	9 (16.4%)
≥ 70 years old	6 (10.9%)
Female	40 (72.7%)
60-69 years old	17 (30.9%)
≥ 70 years old	23 (41.8%)
Age	
60-69 years old	32 (58.2%)
≥ 70 years old	23 (41.8%)
Frequent visits	
once	3 (5.5%)
twice	5 (9.1%)
3 times	2 (3.6%)
4 times	1 (1.8%)
≥5 times	44(80%)
BMI (Body Mass Index)	
Underweight	1 (5.9)
Normal	32(58.9)
Overweight	22 (40)
Education Level	
Not Educated	1 (1.8)
Elementary school	11 (20)
Junior High School	12 (21.8)
Senior High School	18 (32.7)
University	13 (23.6)
Daily Activities	
Independently without needing assistance	34 (61.8)
Dependent	
• Assitance from people	7 (12.7)
• Assistance from tools	14 (25.5)
No comorbidities	18(32.7%)
Comorbidities	37(67.3%)

• Diabetes	14(25.5%)
• Hypertension	22(40%)
• Cancer	5 (9.1%)
• Cardiovascular disease	10(18.2%)
• Others	16(29.1%)

Note: One patient can have more than one comorbidity

Table 2 The incidence rate of frailty in the elderly at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital during the period of March to August 2023

Variable	FRAIL Scale		
	Robust (%)	Pre-frailty (%)	Frailty (%)
Sex			
Male	2 (3.6%)	4(7.3%)	9 (16.4%)
60-69 years old	0 (0%)	1(1.8%)	8 (14.5%)
≥ 70 years old	2 (3.6%)	3 (5.5%)	1 (1.8%)
Female	4 (7.3%)	14 (25.5%)	22 (40%)
60-69 years old	2 (3.6%)	6 (10.9%)	15 (27.3%)
≥ 70 years old	2 (3.6)	7 (12.7)	8 (14.5)
Age			
60-69 years old	2 (3.6)	7 (12.7)	23 (41.8)
≥ 70 years old	4 (7.3)	10 (18.2)	9 (16.4)
Total	6 (10.9)	17 (30.9)	32 (58.2)

The distribution of frailty parameters from the RAPUH questionnaire has been collected, and scores for each variable were calculated. The results categorized patients into three groups: robust (score 0), pre-frailty (score 1-2), and frailty (score 3-5). The calculation results for each group are presented in Table 5.2. The majority of elderly patients fall into the frailty category, totaling 32 individuals (58.2%). This includes 8 male patients aged 60-69 years (14.5%), 1 male patient aged ≥70 years (1.8%), 15 female patients aged 60-69 years (27.3%), and 8 female patients aged ≥70 years (14.5%). There are 17 patients classified as pre-frailty (30.9%), with 1 male patient aged 60-69 years (1.8%), 3 male patients aged ≥70 years (5.5%), 6 female patients aged 60-69 years (10.9%), and 7 female patients aged ≥70 years (12.7%). Robust patients total 6 (10.9%), including 2 male patients aged ≥70 years (3.6%), 2 female patients aged 60-69 years (3.6%), and 2 female patients aged ≥70 years (3.6%).

Table 3 Frailty Risk Factors in the Elderly at the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Surabaya Regional Hospital, March-August 2023

Variable	Robust (%)	Pre-frailty (%)	Frailty (%)
BMI (Body Mass Index)			
Underweight	0 (0%)	1 (5.9%)	0 (0%)
Normal	6 (100%)	10 (58.8%)	16 (50%)
Overweight	0 (0%)	6 (35.3%)	16 (50%)

Education Level			
Not Educated	0 (0%)	0 (0%)	1 (3.1%)
Elementary school	1 (16.7%)	3 (17.6%)	7 (21.9%)
Junior High	0 (0%)	3 (17.6%)	9 (28.1%)
School	2 (33.3%)	6 (35.3%)	10 (31.3%)
Senior High School University	3 (50%)	5 (29.4%)	5 (15.6%)
Daily Activities			
independently without needing assistance	6 (100%)	11 (64.7%)	17 (53.1%)
Dependent and needing assistance	0 (100%)	6 (35.3%)	18 (56.2%)
• Assitance from people	0 (0%)	2 (11.8%)	5 (15.6%)
• Assistance from tools	0 (0%)	4 (23.5%)	13 (40.6%)
No comorbidities	4 (66.7%)	5 (29.4%)	9 (28.1%)
• Comorbidities	2 (3.6%)	12(21.9%)	23 (41.8%)
• Diabetes	0 (0%)	6 (35.3%)	6 (18.8%)
• Hypertension	1 (16.7%)	9 (52.9%)	12 (37.5%)
• Cancer	1 (16.7%)	0 (0%)	3 (9.4%)
• Cardiovascular disease	0 (0%)	2 (11.8%)	7 (21.9%)
• others	1 (16.7%)	6 (35.3%)	8 (25%)

Note: One patient can have more than one comorbidity

4. Discussion

4.1. Characteristics of Elderly Patients

4.1.1. Gender of Elderly Patients

The research findings indicate that the majority of elderly patients at the Outpatient Rehabilitation Installation of RSUD Dr. Soetomo Surabaya from March to August 2023 were female, totaling 40 individuals (72.7%). Among them, 17 individuals (30.9%) were aged 60-69, while 23 individuals (41.8%) were 70 years old. Elderly male patients numbered 15 individuals (27.3%), with 9 individuals (16.4%) aged 60-69, and 6 individuals (10.9%) \geq 70 years old. Thus, it is evident that female elderly patients at the Outpatient Rehabilitation Installation of RSUD Dr. Soetomo Surabaya outnumbered male patients. Among female patients, there were more individuals around 70 years old than those aged 60-69. Conversely, among male patients, those aged 60-69 outnumbered those around 70 years old. Several studies also describe the reasons why women tend to live longer than men. One of them is because the life expectancy of women in various countries tends to be higher than that of men. Conversely, higher mortality rates are more prevalent in men. One of the many factors influencing this is the lifestyle factor. Women tend to maintain their lifestyle compared to men, such as not smoking and not drinking alcohol. In addition, there are many other factors that influence this, such as biological factors, activity factors, socioeconomic factors, and many other factors that also affect the life expectancy of the elderly (Seungmi et al., 2012).

4.1.2. Age of Elderly Patients

This study focused on elderly patients at the Outpatient Rehabilitation Installation of RSUD Dr. Soetomo Surabaya, categorized into two age groups, namely 60-69 years and 70 years, from March to August 2023. The research results showed that the number of elderly patients aged 60-69 was higher, reaching 32 patients (58.2%), compared to the number of elderly patients aged 70, which was 23 individuals (41.8%). Data from the Central Statistics Agency (Badan Pusat Statistik) in 2022 indicated that 65.56% of the elderly population was aged 70-79 years, while 7.69% comprised those aged 80 and above. Therefore, it can be concluded that elderly patients at the Outpatient Rehabilitation

Installation of RSUD Dr. Soetomo Surabaya had a higher number in the 60-69 age group compared to the ≥ 70 age group from March to August 2023.

4.1.3. Number of Visits by Elderly Patients

Based on the findings of this study, the majority of elderly patients at Dr. Soetomo Hospital in Surabaya have visited the hospital five times, accounting for 44 individuals (80%). Patients who have visited twice are 5 individuals (9.1%), and those who have visited once constitute 2 individuals (3.6%). There are two patients who have visited three times (3.6%), fifty individuals who have visited once (5.5%), and one patient who has visited four times (1.8%). Control visits by patients, especially senior patients, at the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Hospital in Surabaya from March to August 2023 are adjusted according to the needs and requests of each patient. This can be influenced by increasing health issues when entering old age, so many elderly individuals go to healthcare facilities, one of which is the hospital. The elderly need to visit healthcare facilities, even for routine check-ups. Regular check-ups are also beneficial for early detection if there are any issues with the elderly person's body. Besides this, many other factors influence the elderly's visits to the hospital, including their own motivation, ease of access to the hospital, the role of accompanying family, and many other factors that affect the level of elderly visits to the hospital (Hutapea, 2019).

4.1.4. Last Education Level of Elderly Patients

Based on the recent education findings of elderly patients at the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Hospital in Surabaya from March to August 2023, the majority of elderly patients are high school graduates or equivalent, totaling 18 individuals (32.7%). Thirteen individuals are college graduates (23.6%), twelve individuals are junior high school graduates (21.6%), eleven individuals are elementary school graduates (20%), and one individual (1.8%) did not complete their education. Patients who completed Senior High School or similar educational institutions have the highest frequency.

4.1.5. Body Mass Index (BMI)

The majority of patients have a normal BMI, with 32 individuals (58.2%), 22 patients (40%) have overweight BMI, and 1 patient (1.8%) has an underweight BMI. The BMI values are determined by assessing the patient's weight and height. Based on the presented data, the majority of elderly patients at the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Hospital in Surabaya from March to August 2023 fall within the normal BMI range. In previous research, the elderly with a BMI < 25 kg/m² experienced an increased risk of falls, even though this BMI is considered normal. Thus, it can be concluded that BMI values in the elderly differ from BMI values in the general population. However, for the elderly with a BMI > 35 kg/m², there is an increased risk of obesity and sarkopenia. Therefore, the ideal BMI value for the elderly is around 25-35 kg/m² to reduce the risk of falls and avoid the risks of obesity and sarkopenia (Kiskaç et al., 2022).

4.1.6. Ability of Elderly Patients to Perform Daily Physical Activities

The ability of elderly patients to perform daily physical activities is divided into two categories: those who can perform all daily physical activities independently and those who require assistance from others or equipment. As a result, 34 individuals (61.8%) among the elderly can perform all daily physical activities without assistance, 7 individuals (12.7%) require assistance from others in performing some daily physical activities such as bathing and eating, and 14 individuals (25.5%) require assistance from equipment for daily physical activities, such as walking sticks.

4.1.7. Comorbidities in Elderly Patients

The research findings on comorbidities in elderly patients at the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Hospital in Surabaya from March to August 2023 were obtained from 18 elderly patients (32.7%) who did not have any comorbidities. The comorbidities queried in the FRAILTY questionnaire included hypertension, diabetes, cancer, COPD, heart attack, congestive heart failure, chest pain, asthma, joint pain, stroke, and kidney disease. The most commonly found comorbidity in elderly patients is hypertension, with 22 individuals (40%), followed by diabetes with 14 individuals (25.5%), heart disease with 10 individuals (18.2%), cancer or tumors with 5 individuals (9.1%), and other unspecified comorbidities with 16 individuals (29.1%). Based on the data, the majority of patients do not have comorbidities, and among the mentioned comorbidities, hypertension is the most prevalent among elderly patients at the Outpatient Rehabilitation Medical Installation of Dr. Soetomo Hospital in Surabaya during the period of March to August 2023, followed by diabetes, heart conditions, and lastly, cancer or tumors. The aging process in the elderly leads to changes in bodily functions, especially in the cardiovascular system, where a decrease in blood vessel elasticity occurs, becoming one of the most common causes of hypertension in the elderly. Hypertension is considered to occur in the elderly if the systolic blood pressure is above 140mmHg and the diastolic pressure is above 90mmHg. Another

common comorbidity in the elderly is diabetes, which can be attributed to a reduced glucose tolerance due to decreased pancreatic insulin production. Therefore, if the elderly's dietary patterns are not maintained, it can lead to diabetes. Diabetes, causing elevated blood sugar levels over time, can eventually trigger high blood pressure (hypertension). Continuous elevation of blood pressure can lead to various other diseases. Most commonly, hypertension triggers heart diseases such as coronary heart disease, among others. Hence, these three comorbidities are most frequently found in elderly patients (Febriani & Fitri, 2019).

4.2. Incidence of Frailty in Elderly Patients

The aggregate findings of frailty score calculations based on the frailty questionnaire RAPHU indicate that the robust category consists of 6 individuals (10.9%), with details of 2 males (3.6%) and 4 females (7.3%). There are 17 patients (30.9%) in the non-frailty category, with 14 (25.5%) being females and 3 (5.5%) being males. The overall results for elderly patients included in the frailty group are 32 (58.2%), with 22 (40%) being females and 10 (18.2%) being males. Previous research on frailty prevalence in the elderly in Surabaya found a rate of 36.7% (5.2% for males and 31.5% for females) (Widajanti et al., 2020). Similar research conducted in America also indicates that the prevalence of females classified as frailty is 33 individuals (67%), which is higher than males, who are only 16 individuals (33%) (Denfeld et al., 2021). This can be attributed to several factors. The first factor is that the overall number of female elderly patients is higher than male elderly patients. Additionally, males generally engage in more physical activities, as the majority are breadwinners, leading to a higher frequency of physical activities compared to females and causing more females to fall into frailty conditions. Many other factors influence the aging process differently in females and males, such as activity levels, biological factors like menopause, psychological factors, and various other factors. According to some studies, although the prevalence of frailty is higher in females than in males, female mortality scores tend to be lower than males. This suggests that, overall, females are more capable of overcoming frailty conditions compared to males.

4.3. Analysis of frailty Risk Factors in Elderly Patients

4.3.1. Body Mass Index (BMI) of Elderly Patients in the Frailty, Pre-frailty, and Robust Categories

BMI stands for Body Mass Index. Patients aged over 65 are categorized as strong, pre-frailty, or frail. The following are findings on BMI estimates for elderly individuals classified as strong, pre-frailty, or frail. All elderly individuals categorized as strong have a normal BMI, with no underweight or overweight BMI values. The majority of pre-frailty elderly individuals, specifically 10 individuals (58.8%), have a normal BMI, 6 individuals have an overweight BMI, and 1 individual (5.9%) has an underweight BMI. In vulnerable elderly individuals, 16 individuals (50%) have a normal BMI, 16 individuals (50%) have an overweight BMI, and none have an underweight BMI. The determination of someone's BMI is measured by dividing body weight (kg) by height (m²), and the result may differ when measured using a body composition scale. This is because it is possible that patients with overweight or tendencies toward obesity, based on BMI, have a greater fat composition than muscle composition, leading to the emergence of muscle weakness or what is commonly known as sarcopenia. Individuals with sarcopenia usually experience weakness that can fall into a frailty condition. Previous research has stated that individuals with sarcopenic obesity have an increased risk of 1.74 to 4.42 times of becoming frailty. Therefore, elderly patients with overweight BMI can also be classified in the frailty category (Yang et al., 2021).

4.3.2. Educational Level of Elderly Patients in the Frailty, Pre-frailty, and Robust Categories

Here are the results of the educational levels of elderly patients at Dr. Soetomo Regional General Hospital in Surabaya from March to August 2023, categorized into strong, pre-frailty, and frailty groups. The majority of elderly patients in the strong category hold three bachelor's degrees (50%), two high school diplomas (33.3%), and one elementary school diploma (16.7%). Pre-frailty category elderly individuals mostly graduated from high school or equivalent: 6 individuals (35.3%), 5 individuals (29.4%) are college graduates, 3 individuals (17.6%) are elementary school or equivalent graduates, and a total of 3 individuals (29.4%) are college graduates. In contrast, the majority of frail elderly patients are high school or equivalent graduates, with 10 individuals (31.3%), followed by 9 individuals (28.1%) who graduated from middle school or equivalent, 7 individuals (21.9%) who graduated from elementary school or equivalent, 5 individuals (15.6%) who are college graduates, and 1 individual (3.1%) who did not attend school. Higher education levels reduce the risk of elderly patients experiencing frailty, but there are other influencing factors such as lifestyle and socio-economic factors

4.3.3. The Ability to Perform Daily Physical Activities in Elderly Patients in the Frailty, Pre-frailty, and Robust Categories

Here are the research findings regarding the ability of elderly patients to perform daily physical activities. Generally, robust elderly individuals are independent in their daily physical activities and do not require assistance. In pre-frailty patients, most results indicate that 11 individuals (64.7%) can perform daily physical tasks without assistance, while 2

individuals (11.8%) require assistance from others, and 4 individuals (23.5%) need the assistance of tools to carry out daily physical activities. It is known that the majority of frail elderly individuals require assistance in daily activities, with a total of 18 individuals (56.2%), compared to those who need assistance from others, which is 5 individuals (15.6%), and those who need assistance from tools for daily physical activities, which is 13 individuals (40.6%). However, 17 individuals (53.1%) can perform daily physical activities without assistance. Most elderly patients in the frailty category can carry out daily physical activities without requiring assistance from others. The majority of frailty patients do not show dependence in activities, allowing them to remain independent in their daily activities.

4.3.4. Comorbidities in Elderly Patients in Frailty, Pre-frailty, and Robust Categories

Based on the research findings on comorbidities in elderly patients at Dr. Soetomo Regional General Hospital in Surabaya from March to August 2023, the majority of 4 individuals (66.7%) in the robust category do not have comorbidities. Patients classified as pre-frailty exhibit the following comorbidities: 9 (52.9%) have hypertension, 6 (35.3%) have diabetes, 2 (11.8%) have heart-related comorbidities, 6 (35.3%) have other comorbidities not mentioned above, and 5 (29.4%) do not have comorbidities. Among the elderly patients, a total of 12 individuals (37.5%) have comorbid hypertension, 6 individuals (18.8%) have comorbid diabetes, 3 individuals (9.4%) have comorbid cancer or tumor-related conditions, 7 individuals (21.9%) have comorbid heart-related conditions, 8 individuals (25%) have other comorbidities not mentioned above, and 9 individuals (28.1%) do not have comorbidities. Based on these findings, the highest prevalence of comorbidities is observed in elderly patients at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya during the period of March to August 2023. Both pre-frailty and frailty categories predominantly suffer from hypertension, whereas the majority of robust-category patients do not have comorbidities. It can be observed that hypertension is also a comorbidity with the highest prevalence among elderly patients in the frailty category (Ishii et al., 2020). This can be due to hypertension increasing the risk of falls in the elderly by reducing baroreceptor function, thereby altering circulation in the brain and coronary arteries. It also affects balance and walking style, leading the elderly to fall into a frailty condition (Abu Bakar et al., 2021). In addition to hypertension, other common comorbidities found in frailty patients are diabetes and heart disease. Some studies suggest that diabetes can be a trigger for weakness in the elderly. Elderly individuals with comorbid diabetes are more likely to become frail compared to those without diabetes because there is a decrease in the functional status of the body in diabetic patients. Similarly, elderly individuals with comorbid heart disease are generally prone to feeling tired during activities, reducing their overall productivity (Muszalik et al., 2022).

4 Conclusion

Characteristics of elderly patients at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya from March to August 2023: Female elderly patients outnumber males, patients aged 60–69 years outnumber those aged ≥ 70 years, a majority of patients have visited the unit >5 times, most elderly patients have completed high school education (SMA), a significant number of elderly patients have a normal BMI, most elderly patients are capable of performing daily physical activities without assistance, the majority of elderly patients do not have comorbidities, and the most common comorbidity among elderly patients is hypertension.

The incidence rate of frailty among elderly patients at the Outpatient Medical Rehabilitation Unit of Dr. Soetomo Regional General Hospital in Surabaya from March to August 2023 is divided into three categories: frailty category 58.2%, prefrailty category 30.9%, and robust category 10.9%.

Results of this study, based on categorizing elderly patients according to the FRAIL questionnaire scores, indicate that the majority fall into the frailty category. Regarding risk factors in frailty-category elderly patients: the number of elderly patients with normal BMI is equal to those with overweight BMI. Elderly patients with overweight BMI may have a higher fat mass, triggering obesity-sarcopenia that leads to frailty conditions. Most frailty-category elderly patients are high school graduates. Higher education levels reduce the risk of frailty in elderly patients, but other factors such as lifestyle and socioeconomic factors influence this. Most frailty-category elderly patients can perform daily physical activities independently without assistance. Most frailty-category patients do not show dependency in activities, allowing them to maintain independence in daily activities. A higher proportion of frailty-category elderly patients have comorbid hypertension compared to those without comorbidities. Hypertension makes the elderly more susceptible to fatigue and reduces their ability to engage in daily activities.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest to be disclosed.

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