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The Prevalence of Frailty in the Elderly at Surabaya Nursing Home

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ABSTRACT

Background: As we age, the body will experience a decline in various organ functions. Frailty is a collection of symptoms of decreased physiological abilities associated with aging characterized by increased vulnerability, ultimately leading to a decrease in a person's functional performance. The prevalence of frailty in Indonesia is estimated to reach 25.2% among the elderly, with this figure indicating a major challenge for the health system, given the increasing elderly population, which now reaches around 27 million people or 10% of the total population. In Surabaya, research on frailty also showed a significant figure of 36.7% of 308 subjects. ***Objective:*** This study aims to determine the incidence of frailty among the elderly at the UPTD Griya Wreda Jambangan. ***Method:*** The aim of this research is to examine the frailty profile of elderly patients at UPTD Griya Wreda Jambangan in Surabaya over a specific time frame. This study is descriptive in nature and employs a cross-sectional survey approach. Data processing involves the use of computerized calculations. Descriptive analysis will be applied to the data, and the results will be presented in tables showing the prevalence of frailty at UPTD Griya Wreda Jambangan in March 2024. ***Result:*** Most elderly individuals fall into the robust category, totaling 24 (50%). There are 19 individuals classified as pre-frail (39.6%) and 5 as frail (10.4%).

Keywords: elderly; frailty; UPTD Griya Wreda Jambangan.

INTRODUCTION

As we age, the body will experience a decline in various organ functions. Frailty is a collection of symptoms of decreased physiological abilities associated with aging characterized by increased vulnerability, ultimately leading to a decrease in a person's functional performance. Characteristics of frailty can include weight loss, fatigue, low physical activity, slowness, and weakness[1]. The prevalence of frailty in Indonesia is estimated to reach 25.2% among the elderly, with this figure indicating a major challenge for the health system, given the increasing elderly population, which now reaches around 27 million people or 10% of the total population[2][3]. Research shows that the condition is more common in women and can contribute to higher morbidity in the elderly[4]. In Surabaya, research on frailty also showed a significant figure of 36.7% of 308 subjects. A study in five areas in the city revealed that most subjects experienced frailty conditions even though they were physically active[5]. Frailty is not solely a geriatric syndrome; it carries substantial implications for healthcare systems and society as a whole. The increased susceptibility associated with frailty results in elevated healthcare expenditures and greater resource utilization. For instance, frail elderly individuals incur healthcare costs that are more than twice as high as those of their non-frail counterparts. Furthermore, frailty is linked to functional decline, highlighting the necessity for healthcare professionals to identify and manage this condition in a timely and proactive manner [3]. With many elderly people at risk of frailty, it is important to identify and intervene early so that they can maintain a better quality of life. Therefore, this study aims to determine the incidence of frailty among the elderly at the UPTD Griya Wreda Jambangan in March 2024.

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 UPTD Griya Wreda Jambangan. Employing a total sampling method, it encompassed all eligible elderly meeting inclusion and exclusion criteria. Inclusion criteria involved all elderly aged 60 at the UPTD Griya Wreda Jambangan. Excluded criteria were incomplete records. The study utilized stationery, data sheets, and the International Business Machines Corporation (IBM) Statistical Package for the Social Sciences (SPSS) version 23.0 for data collection and analysis. All statistical evaluations were conducted using IBM SPSS version 23.0, and the results were ultimately displayed through tables.

The components of frailty are evaluated using the FRAIL scale, which encompasses Fatigue, Resistance, Ambulation, Illness, and Weight Loss. Fatigue is assessed by asking participants how often they have felt tired over the past 4 weeks. Those who answer "all the time" or "most of the time" receive a score of 1, while those who answer "sometimes" or "rarely" are given a score of 0. Resistance is evaluated by inquiring if the participant has difficulty climbing 10 steps without resting. A "yes" response earns a score of 1, while "no" results in a score of 0. Regarding Illness, participants are asked about their medical history, including conditions such as hypertension, diabetes, cancer, and other major diseases. If the total number of reported conditions is between 0 and 4, the score is 0, but if it ranges from 5 to 11, the score is 1. Ambulation is assessed by asking whether the participant can walk approximately 100-200 meters. A "yes" answer results in a score of 1, and a "no" answer gives a score of 0. Weight Loss is determined by comparing the participant's current body weight to their weight from the previous year. The percentage difference is calculated, with a result greater than 5% receiving a score of 1 and less than 5% receiving a score of 0. The FRAIL scale categorizes individuals as follows: robust (score 0), pre-frail (total score 1-2), and frail (total score >2)[6].

RESULTS

The total number of elderly patients included and analyzed in this study is 48 individuals at the UPTD Griya Wreda Jambangan in March 2024. The distribution of frailty parameters from the FRAIL scale questionnaire has been collected, and scores for each variable were calculated. The results categorized the elderly 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 1.

TABLE 1: The incidence rate of frailty in the elderly at the UPTD Griya Wreda Jambangan on March 2024.

Variable	FRAIL Scale		
	Robust (%)	Pre-frailty (%)	Frailty (%)
Sex			
Male	12 (25)	5 (10,4)	0
60-69 years old	5 (10,4)	1 (2,1)	0
70-79 years old	4 (8,3)	4 (8,3)	0
80-89 years old	3 (6,3)	0	0
Female	12 (25)	14 (29,2)	5 (10,4)
60-69 years old	5 (10,4)	4 (8,3)	1 (2,1)
70-79 years old	4 (8,3)	8 (16,7)	2 (4,2)
80-89 years old	3 (6,3)	2 (4,2)	2 (4,2)
Age			
60-69 years old	10 (20,8)	5 (10,4)	1 (2,1)
70-79 years old	8 (16,7)	12 (25,0)	2 (4,2)
80-89 years old	6 (12,5)	2 (4,2)	2 (4,2)
Total	**24 (50,0)**	**19 (39,6)**	**5 (10,4)**

Most elderly fall into the robust category, totaling 24 individuals (50%). This includes 5 male elders aged 60-69 years (10.4%), 4 male elders aged 70-79 years (8.3%), 3 male elders aged 80-89 years (6,3%), 5 female elders aged 60-69 years (10.4%), 4 female elders aged 70-79 years (8.3%), and 3 female elders aged 80-89 years (6,3%). There are 19 elders classified as pre-frailty (39.6%), with 1 male elder aged 60-69 years (2.1%), 4 male elders aged 70-79 years (8.3%), 4 female elders aged 60-69 years (10,4%), 8 female elders aged 70-79 years (16.7%), and 2 female elders aged 80-89 years (4.2%). Frailty elders total 5 (10.4%), including 1 female elder aged 60-69 years (2.1%), 2 female elders aged 70-79 years (4.2%), and 2 female elders aged 80-89 years (4.2%).

DISCUSSION

Frailty is a multifactorial condition that arises from the combined impact of various factors, including insufficient physical activity, poor nutrition, an unhealthy environment, injury, illness, and age-related changes in several physiological systems. These age-related alterations, especially in the neuromuscular system, are key contributors to the onset of frailty. As the body's systems become imbalanced, their functionality diminishes, ultimately resulting in frailty[1]. The aggregate findings of frailty score calculations based on the FRAIL scale questionnaire indicate that the robust category consists of 24 individuals (50%), with 12 males (25%) and 12 females (25%). There are 19 elders (39.6%) in the pre-frailty category, with 5 (10.4%) being males and 14 (29.2%) being females. The overall results for the elderly in the frailty group are 5 (10.4%) and all of them are females. A previous study on the prevalence of frailty in the elderly in Surabaya reported a rate of 36.7%, with 5.2% of males and 31.5% of females classified as frail[5]. In similar research in Thailand, the prevalence of frailty was higher in females (14,4%) compared with males (12,8%)[7].

CONCLUSIONS

Frailty shows a higher prevalence among females and individuals aged 70-79 years. Most elderly individuals fall into the robust category, totaling 24 (50%). There are 19 individuals classified as pre-frail (39.6%) and 5 as frail (10.4%).

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