The Risk of Falls among Elderly at Panti Sosial Tresna Werdha Budi Luhur, Jambi City

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ABSTRACT

Elderly individuals are an age group that is vulnerable to various health problems, one of which is the risk of falling. Falls among the elderly can lead to injuries, decreased quality of life, and even death. Therefore, it is important to identify factors associated with the risk of falls, especially among older adults living in social care institutions such as nursing homes. This study aimed to describe the risk of falls among elderly residents at the Budi Luhur Social Institution for the Elderly (PSTW) in Jambi City. This research used a descriptive quantitative design with a cross-sectional approach. The sample consisted of 58 elderly individuals selected using a total sampling technique. The instrument used was the Morse Fall Scale to assess the level of fall risk. Data were analyzed univariately and presented in the form of frequency distributions and percentages. The results showed that most of the elderly had a high risk of falling, totaling 43 respondents (74.14%), while 15 respondents (25.86%) had a moderate risk of falling. The factors contributing to a higher risk of falls included muscle weakness, balance disorders, the use of walking aids, and a history of previous falls. In conclusion, the majority of elderly individuals at the Budi Luhur Social Institution in Jambi City had a high risk of falling. Preventive efforts such as physical exercises to improve strength and balance, fall prevention education, and creating a safe environment are necessary to reduce the risk of falls among the elderly.

Keywords : *fall risk, elderly, Morse Fall Scale*

INTRODUCTION

According to the World Health Organization, older adults are individuals aged 60 years or older who experience biological, psychological, and social aging processes that lead to a decline in bodily functions (1). The aging process causes physiological changes in the musculoskeletal, cardiovascular, nervous, and sensory systems, resulting in decreased balance, coordination, and muscle strength (2). These changes increase the risk of falls among older adults, making falls one of the most serious threats to their health, mobility, and overall quality of life (3).

Globally, the prevalence of falls and fall risk among older adults is considerably high, particularly in nursing homes or institutional care settings. Falls are the second leading cause of death due to unintentional injuries worldwide. The global prevalence of falls among community-dwelling older adults aged 65 years and above ranges from 28% to 35%, and increases to 32%–42% among those aged over 70 years. These figures indicate that falls among the elderly constitute a significant public health problem across the world (4). In Indonesia, the aging population continues to grow, leading to an increased burden of age-related health problems, including fall-related injuries. According to the 2018 Basic Health Research report, the prevalence of falls among older adults in Indonesia is also notably high. Approximately 67.1% of older adults aged 65–74 years and 78.2% of those aged 75 years

and above were reported to have experienced at least one fall. These findings suggest that falls represent one of the major health problems affecting the elderly population in Indonesia (5).

Several studies in Indonesia have shown that the risk of falls among older adults is influenced by various intrinsic, extrinsic, and behavioral factors. Intrinsic factors include muscle weakness, balance disorders, visual impairment, cognitive decline, history of previous falls, and the use of medications such as antihypertensives or sedatives. Extrinsic factors comprise inadequate lighting, slippery floors, absence of handrails, and cluttered environmental conditions. Meanwhile, behavioral factors involve habits such as moving too quickly, lack of awareness regarding fall risk, and the improper use of assistive devices (6)(7).

A study conducted in Cianjur Regency revealed that 78.5% of older adults were categorized as being at risk of falling within their family environment (8). The physical consequences of falls among older adults are highly complex. According to Ministry of Health RI, most head injuries among individuals aged 65 years and older in Indonesia were caused by falls, particularly those occurring at home (5). Research conducted in Sumerta Village, Bali, supports this finding by showing that older adults with cognitive impairment have a higher risk of falling, which subsequently increases the likelihood of head injuries due to slower protective reflexes (9). Furthermore, another study found that more than 30% of older adults at high risk of falling experienced muscle or joint pain following a fall incident (7). Research conducted in Sukoharjo reported that fall-related injuries significantly reduced independence and increased dependency on family members for daily activities (10).

In Indonesia, particularly in nursing homes such as *Panti Sosial Tresna Werdha* (PSTW), data on fall risk remain relatively limited despite the urgent need for preventive interventions. A preliminary survey conducted at the Budi Luhur Social Welfare Institution in Jambi City revealed that several incidents of elderly falls occur each month; however, the exact figures have not been systematically recorded. Based on these findings, it is essential to conduct a study that specifically describes the level of fall risk and its contributing factors among older adults at the Budi Luhur Social Welfare Institution, Jambi City. The results of this study are expected to provide empirical data that can serve as a foundation for planning fall prevention measures, guiding nursing care interventions, and informing policy development within nursing home settings in the future.

METHODS

This study employed a quantitative descriptive design. This design was chosen because the researcher aimed only to describe or illustrate the risk of falls experienced by older adults at a single point in time without conducting any interventions. Through this design, the researcher could obtain a general overview of the level of fall risk among elderly respondents at the study site. The population in this study consisted of all elderly individuals living in the research area, namely at PSTW Budi Luhur, Jambi City. The inclusion criteria included older adults aged 60 years and above, able to communicate well, and willing to participate as research respondents. Meanwhile, the exclusion criteria included older adults with severe cognitive impairment, unconsciousness, or severe disabilities that hindered the process of completing the questionnaire. Sampling was carried out using a total sampling technique, which involves selecting samples based on specific criteria relevant to the research objectives. The number of samples was determined based on the minimum number of respondents required for a descriptive study, ranging between 30 and 100 individuals. In this study, a total sampling method was used, consisting of 58 elderly participants.

The instrument used in this study was the Morse Fall Scale (MFS), which is a standardized tool for assessing the risk of falls in older adults. The MFS consists of six components: (1) history of falling, (2) secondary diagnosis, (3) ambulatory aid, (4) intravenous therapy or heparin lock, (5) gait or transferring, and (6) mental status. Each

component has a specific score, and the total score determines the level of fall risk. A total score of 0–24 indicates *low risk*, 25–44 indicates *moderate risk*, and ≥45 indicates *high risk* of falls. The data were collected through direct observation and structured interviews with respondents, which were conducted by the researcher with the assistance of trained enumerators. Prior to data collection, permission was obtained from the management of PSTW Budi Luhur, and informed consent was secured from all participants. The instrument used had previously been tested for validity and reliability in similar studies and was deemed appropriate for use in this research setting.

Data collection was carried out after approval and official permission from the management of PSTW Budi Luhur, Jambi City. Prior to data collection, the researcher provided an explanation regarding the purpose, procedures, and confidentiality of the study to all prospective respondents. Those who agreed to participate were asked to sign an informed consent form. The collected data were analyzed descriptively to determine the frequency distribution and percentage of each fall risk category, including low, moderate, and high risk. The results of the analysis were presented in tabular form to facilitate readers' understanding of the overview of fall risk among older adults. Throughout the research process, the researcher adhered to ethical principles, including informed consent (agreement after explanation), anonymity (without revealing respondents' identities), and confidentiality (protection of data privacy).

RESULTS

The results section presents the findings obtained from the study conducted among older adults at PSTW Budi Luhur, Jambi City.

Table 1. Distribution of Respondents' Characteristics (n=58)

	Frequency	Percentage
Age		
≥ 60 tahun	58	100
Gender		
Male	25	43.10
Female	33	56.90

Based on Table 1, all respondents in this study totaled 58 individuals (100%), all of whom were aged 60 years or older, thus categorized as older adults. In terms of gender, the majority of respondents were female, accounting for 33 individuals (56.90%), while male respondents totaled 25 individuals (43.10%). Therefore, the proportion of female older adults in this study was higher than that of male older adults.

Table 2. Description of Respondents' Fall Risk (n=58)

	Frequency	Percentage
Risk of Fall		
High Risk	43	74.14
Moderate Risk	15	25.86

Based on Table 2, it was found that out of a total of 58 respondents, the majority of older adults had a high risk of falling, accounting for 43 individuals (74.14%). Meanwhile, 15 individuals (25.84%) were categorized as having a moderate fall risk. These findings indicate that most older adults at the study site have a high potential for experiencing falls, thereby highlighting the need for greater attention and more intensive preventive efforts to reduce this risk.

Table 3. Distribution of Fall Risk Components (n=58)

	Frequency	Percentage
History of Falling		
No	17	29.31
Yes	41	70.69
Ambulatory Aid		
None	21	36.21
Using kruk	18	31.03
Require assistance from another person	19	32.76
Having more than one medical diagnosis		
No		
Yes	58	100
Transfer Ability		
Unsteady	39	67.24
Very unsteady	19	32.76
Mental Status		
Oriented to own abilities	13	22.41
Unaware of abilities	45	77.59
IV Therapy		
No	55	94.83
Yes	3	5.17

Based on Table 3, it was found that most respondents had a history of previous falls, totaling 41 individuals (70.69%), while 17 individuals (29.31%) had no history of falling. Regarding the ambulatory aid component, 21 respondents (36.21%) did not use any assistive devices, 18 respondents (31.03%) used crutches, and 19 respondents (32.76%) required assistance from another person when walking. All respondents (100%) had more than one medical diagnosis, indicating that the majority of older adults experienced complex health conditions or comorbidities. In terms of transfer ability, most respondents were categorized as unsteady (39 individuals; 67.24%) and very unsteady (19 individuals; 32.76%). Regarding mental status, most respondents were unaware of their own abilities (45 individuals; 77.59%), while 13 individuals (22.41%) were oriented to their own abilities. Meanwhile, in the IV therapy component, most respondents did not use intravenous therapy (55 individuals; 94.83%), and only 3 individuals (5.17%) used IV infusion. These findings illustrate that the majority of older adults possess several factors that increase their risk of falling, such as a history of falls, instability during transfers, low self-awareness of physical abilities, and complex health conditions.

DISCUSSION

The results of the study showed that among the 58 older adult respondents at PSTW Budi Luhur, Jambi City, 43 individuals (74.14%) were categorized as having a high risk of falling, while 15 individuals (25.84%) were at a moderate fall risk. No respondents were identified as having a low fall risk. These findings indicate that the majority of older adults in the social institution have a high vulnerability to fall incidents. The high proportion of older adults with a high fall risk reflects a significant decline in their physical and functional conditions. This finding aligns with Marilyn Parker's Nursing Theory of the Aging Process, which explains that the natural aging process leads to a decline in physiological functions—such as muscle strength, reflexes, and balance—all of which directly contribute to an increased risk of falls (11).

These findings are consistent with the World Health Organization report, which states that approximately 30–50% of older adults residing in institutional settings, such as nursing homes, experience falls each year, and about half of them experience recurrent falls. The aging process leads to significant physiological changes, including a decline in muscle mass (sarcopenia), slower reflexes, and neurological impairments affecting the body's balance system, all of which contribute to an increased risk of falls (4).

These descriptive findings are consistent with previous studies that reported similar patterns. The previous study found that 68% of older adults living in *Panti Wredha* were at high risk of falling, as measured by the Morse Fall Scale (12). Likewise, a study conducted at PSTW Tresna Werdha Budi Mulia also showed that more than 70% of older adults were categorized as having a high fall risk (13). The similarity of these findings indicates that a high fall risk is a common phenomenon among older adults residing in institutional care settings.

When viewed based on the components of the Morse Fall Scale (MFS), the most frequently identified factors were a history of previous falls and the use of ambulatory aids. These two aspects are key indicators associated with the high-risk category. Older adults with a history of falls tend to experience reduced self-confidence and a fear of falling, which consequently lead to decreased physical activity and a decline in muscle strength (14).

Recent research also shows that multimorbidity (the presence of more than two chronic diseases) has a significant impact on fall risk. This finding is consistent with previous studies indicating that older adults with chronic conditions such as hypertension, diabetes, or neurological disorders have twice the likelihood of experiencing falls compared to their healthier counterparts (15).

In addition, the use of walking aids such as canes or walkers was observed among the majority of respondents. Although these devices are intended to improve mobility, for older adults with balance or visual impairments, the unsupervised use of walking aids may actually increase the risk of falls. This finding is supported by previous research indicating that improper use of walking aids increases the likelihood of falls by up to 2.5 times compared to older adults who do not use such aids (16).

Descriptive analysis also revealed that older adults with unstable gait patterns were more frequently found in the high fall risk group. This condition is closely associated with lower extremity muscle weakness, peripheral neuropathy, and the effects of medications that may reduce blood pressure or consciousness. The World Health Organization emphasizes that gait disturbances represent one of the primary physiological factors contributing to falls among older adults worldwide (4).

When associated with mental status, most older adults in this study demonstrated poor orientation and slow responses to stimuli. Older adults with impaired orientation are more likely to experience a higher risk of falling. Orientation which includes awareness of time, place, and person is a fundamental aspect of cognitive functioning that plays an important role in an individual's ability to adapt to their surroundings. According to the Indonesian Ministry of Health, disorientation is often related to degenerative brain changes, such as a reduction in the number of neurons and decreased cerebral blood flow. Furthermore, previous research has shown that older adults with poor orientation have nearly twice the likelihood of experiencing falls compared to those with good orientation (17). This increased risk may be due to their inability to respond quickly to hazardous situations, such as slipping or losing balance (18).

Overall, the results of this descriptive analysis confirm that older adults at PSTW Budi Luhur, Jambi City are in a highly vulnerable condition for falls, as evidenced by the predominance of the high-risk category. This situation underscores the importance of routine fall risk screening using the Morse Fall Scale (MFS) by nursing staff in social institutions, as part of promotive and preventive interventions aimed at reducing fall incidents among older adults.

This study has several limitations. First, the study was conducted in a single social care institution, which may limit the generalizability of the findings to elderly populations in other settings or regions. Second, the use of the Morse Fall Scale relies on observational

and self-reported information, which may be subject to measurement bias. Finally, this study focused only on describing fall risk levels and did not explore in depth other potential contributing factors such as environmental conditions, cognitive status, or psychosocial aspects.

CONCLUSION

Based on the findings of this study, it can be concluded that the risk of falls among older adults remains high and constitutes an important health concern, particularly among elderly individuals living in social care institutions where daily activities are routinely performed. The results indicate that a substantial proportion of elderly residents experience a high level of fall risk, reflecting their overall physical and functional condition. These findings highlight the importance of early identification of fall risk and the implementation of appropriate preventive measures within institutional settings to promote safety and well-being among older adults.

Moreover, environmental factors such as room layout, inadequate lighting, or slippery floor surfaces can further exacerbate fall risk if not properly addressed. This study is expected to serve as a foundation for the development of health policies and interventions focused on improving the safety and well-being of older adults both in social institutions and in the wider community. Therefore, the descriptive results of this study not only provide an overview of the current condition of older adults but also serve as an important reference for designing fall prevention strategies at PSTW.

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