



LEVEL OF INDEPENDENCE AND ATTITUDE IN FULFILLMENT OF ACTIVITY DAILY LIVING WITH THE RISK OF FALLING IN THE ELDERLY

Mareyke Y.L. Sepang^{1*}, Wahyuni Langelo², Maharany Ungkey²

¹School of Nursing, STIKES Gunung Maria Tomohon, Jl. Florence, Kolongan Lingkungan VII, Tomohon, North Sulawesi, Indonesia 95442, Indonesia

²School of Nursing, Universitas Katolik De La Salle Manado, Kairagi 1 Kombos, Manado, Sulawesi Utara 95253, Indonesia

*sepangmareyke275@gmail.com

ABSTRACT

Changes in physical condition in the elderly cause the risk of falls in the elderly. The incidence of falls can hinder the quality of life of the elderly such as a decrease in independence in carrying out functional activities. The independence of the elderly in Lirung 1 Village was found to be still elderly who forced to carry out their activities independently even though their physical health conditions had weakened who should have needed assistance in carrying out daily activities or in fulfilling Activity Daily Living (ADL). The aim of this research is to determine the relationship between the level of independence and attitude in fulfilling Activity Daily Living with the risk of falling in the elderly in Lirung 1 Village, Talaud Island. This research is quantitative research with correlation research design. The data was collected by questionnaire tools used a Barthel Index questionnaire, attitude questionnaire and Morse Falls Scale (MFS). The population in this study were all the elderly in Lirung 1 Village, totaling 174 elderlies with sampling using purposive sampling technique, the number of samples taken is as many as 121 elderly respondents. This study uses the Spearman's Rho Correlation test. The results showed that the level of independence (p value 0,000) and the attitude (p value 0,000) with the risk of falling in the elderly. There is a relationship between the level of independence and attitudes in fulfilling daily living activities with the risk of falling in the elderly.

Keywords: activity daily living; attitude; elderly; fall risk; level independence

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INTRODUCTION

Changes in physical condition in the elderly cause the incidence of falls. Falls incident can hinder the quality of life of the elderly such as a decrease in the independence of the elderly in carrying out their functional activities, the confidence of the elderly, and even affect the muscle strength and balance of the elderly (Anggaran, 2018). Falls can have an impact on the elderly, which can cause injury to the elderly. The impact of changes in physical abilities experienced by the elderly is around 20-30% which can cause falls, from this problem so that the elderly experience a decrease in their quality of life or lose their freedom in fulfilling their Daily Living Activity (Jamebozorgi, 2013; Kartikasari, 2019).

The rate of increase in the elderly in the world is quite high. According to World Population Aging (2019) based on the global elderly population for over 65 years, there are 703 million elderly (9%) (United Nations, 2019). In 2020, the global population of elderly people aged 65 years and over is 727 million elderly, it is predicted that in 2050 the number of elderly people

will increase by 1.5 billion in the world, the percentage of elderly people in 2020 from 9.3% to 16% in 2050 (United Nations, 2020). So, the number of elderly people in the world is still increasing, seen from 2019 to 2020 with an increase of around 24 million people. Falls are a serious problem in the world. According to World Health Organization (2018), the number of elderly who died due to falls in the world was around 646,000 elderly due to causative factors, namely a decrease in physical abilities such as weakness of the limbs (Sitorus, 2020).

In Asia, the number of elderly people is increasing. According to World Population Aging (2019), the number of elderly populations in the Southeast Asian continent for the elderly aged 65 years is 261 million elderly (United Nations, 2019). In 2020, the total population in Southeast Asia aged 65 years and over is around 448 million elderly people (United Nations, 2020). According to world health organization in 2018, in Southeast Asian countries the consequences of falls in the elderly were 60% of deaths due to falls. According to WHO in 2018, the number of falls in the elderly was 37.3 million elderly so that health services from health workers were needed correctly and quickly per year (Sitorus, 2020).

The number of elderly people also increases in Indonesia. In 2020, the elderly population in Indonesia 9.92% or as many as 26.82 million elderly. Most of the elderly in Indonesia, namely the age group 60-69 years, reaching 64.29%, for the middle elderly it reached 27.23% and the elderly group 80 years and over as much as 8.49% (BPS, 2020). The incidence of falls in Indonesia is also still increasing. Based on data from the Ministry of Health of the Republic of Indonesia in 2019, it is estimated that 1 in 3 elderly population in Indonesia aged 65 years and over experience falls, the precipitating factors that often result in falls are intrinsic or due to balance disorders by 68% and due to environmental factors 31% (Indonesia Ministry of Health, 2019; Sitorus, 2020).

The elderly group of people with a fairly high presentation. In 2020, North Sulawesi is still in fifth place with the number of elderly people increasing from the previous year to 11.51% (BPS, 2020). For the number of falls risk that occurs in the elderly in North Sulawesi at BPLU Senja Cerah Manado as much as 73% (Dady, 2019). According to the elderly health cadres in Lirung 1 2018, the number of elderly was 156 elderly people with a fall risk presentation of 24.4%. In 2019, the number of elderly people in Lirung 1 was 174 elderly people with a fall risk presentation increasing by 25.9%. So, the number of elderly people in North Sulawesi is the government's concern to maintain the welfare of the elderly.

To overcome the health problems of the elderly and prevent the risk of falling in the elderly, the government has made several efforts. According Ministry of Basic Health Research in 2018, it shows that the elderly are someone who is easily affected by disease, and the problem for the elderly who often suffers is injuries due to falls. The Indonesian government always makes various efforts to be able to improve welfare in maintaining the quality of life of the elderly, the goal is to obtain healthy, independent, active, and productive elderly (BPS, 2020). Therefore, the existing health services are expected to be able to overcome the existing health problems of the elderly such as the risk of falling.

Even though all the above efforts have been made by the government, there are still elderly people who may experience the risk of falling. Elderly with a high level of independence and a good attitude usually have the ability to fulfill their Daily Living Activity, but this can also have an impact on falling because it is related to the age of the elderly who have started to experience aging accompanied by a process of decreasing physical ability from the elderly. The research on the risk of falling in the elderly in North Sulawesi is still lacking, most of

which have not been carried out, especially in the Talaud area. The aim of this research is to determine the relationship between the level of independence and attitude in fulfilling Activity Daily Living with the risk of falling in the elderly in Lirung 1 Village, Talaud Islands.

METHODS

This research type was quantitative research with a descriptive correlational research design. The researcher conducted measuring and filling out the questionnaire then analysis to find out whether or not there is a relationship between the level of independence and attitude in fulfilling the Daily Living Activity with the risk of falling in the elderly in Lirung 1 Village, Talaud Islands. The research population was total of the elderly who lived in Lirung 1 the amounted to 121 elderly. The sampling method was used the non-probability sampling with the purposive sampling techniques. This study used Spearman's Rho Correlation test.

The instrument in this study was using the Barthel Index questionnaire for the level of independence, an attitude questionnaire that was prepared directly by the researcher who passed the validity and reliability test with the results of Cronbach alpha .922 and the Morse Falls Scale (MFS) observation sheet to determine the risk of falling in the elderly. Data analysis in this study went through 2 stages, namely the data processing stage and the analysis stage, both univariate and bivariate. Data processing goes through several stages, namely editing where the collected data is checked for completeness of data including data relevance (answers according to questions).

Furthermore, coding by giving a code to the questionnaire sheet and giving a number code in each answer according to the provisions. Next is processing where the data is entered in the master table; the researcher processes data for value analysis based on the respondent's answers through statistical test calculations using program computer. Then cleaning is carried out where checking is related to missing data, whether the data that has been entered is correct based on the code, and the stability of the data, namely seeing the data is appropriate or not. About univariate analysis where in displaying a result from univariate analysis that has been tested on a program computer, which is related to the description of the characteristics of each variable studied by researchers, namely the independent variable, namely the level of independence and attitude in fulfilling the Daily Living Activity (ADL) and the dependent variable, namely fall risk, and also displays the results related to the characteristics of the respondents such as gender, age, last education, occupation, marital status, which was analyzed by the researcher in frequency and presentation. While the bivariate analysis aimed to analyze the relationship between the dependent variable, namely the risk of falling with the independent variable. namely about the level of independence and attitude in fulfilling daily living (ADL) activities, knowing whether there is a relationship between a variable. In this study the statistical test used was the researcher, namely the Spearman's Rho Correlation test with the significance of the Spearman's Rho Correlation: = 0.05.

RESULTS

Based on the table above for the frequency distribution of the demographic data of respondents in Lirung 1, namely gender, the most elderly was female with a frequency of 72 respondents (59.5%). Most seniors by age are young elderly (60-69) years with a frequency of 74 respondents (61.2%). The most recent education of elderly respondents was elementary school with a frequency of 58 elderly respondents (47.9%). The most occupations of elderly respondents was housewives with a frequency of 59 respondents (48.8%). Judging from marital status the most are married with a frequency of 65 elderly respondents (53.7%).

Table 1.
 Characteristics of Respondents (n = 121)

Characteristics	f	%
Gender		
Men	49	40.5
Women	72	59.5
Age		
45-59 (y)	12	9.9
60-69 (y)	74	61.2
70-79 (y)	30	24.8
80+ (y)	5	4.1
Level of educations		
Primary school	58	47.9
Junior high school	32	26.4
Senior high school	17	14.0
College graduate	13	10.7
Non	1	0.8
Profession		
Housewife	59	48.8
Farmer	18	14.9
Entrepreneur	16	13.2
Not work	18	14.9
Other	10	8.3
Marital Status		
Unmarried	4	3.3
Married	65	53.7
Widow	41	33.9
Widower	11	9.1

Table 2.
 Level of Independence Respondents (n= 121)

Level of Independence (Activities of Daily Living)	f	%
Independent	73	60.3
Minimally Dependent	6	5.0
Partially Dependent	26	21.5
Very Dependent	12	9.9
Total Dependent	4	3.3

Based on the table above, it shows that the level of independence of the most respondents is independent with a frequency of 73 elderly respondents (60.3%), for the level of independence with a minimally dependent category with a frequency of 6 elderly respondents (5.0%), the category of partially dependent with a frequency of 26 respondents elderly (21.5%), while for the category of very dependent with a frequency of 12 elderly respondents (9.9%), and for the level of independence with a category of total dependent with a frequency of 4 elderly respondents (3.3%).

Table 3.
 Attitude of Respondents (n= 121)

Elderly Attitude	f	%
Good attitude	63	52.1
Lack of attitude	58	47.9

Based on the table above that the attitude of the elderly with a good attitude category with a frequency of 63 elderly respondents (52.1%) and the category for lack of attitudes with a frequency of 58 elderly respondents (47.9%).

Table 4.
 Risk of Falls in the Elderly Respondents (n= 121)

Risk of Falls	f	%
No risk	36	29.8
Low risk	36	29.8
High risk	49	40.5

Based on the table above, it shows that the risk of falling in the elderly category is not at risk, namely with a frequency of 36 elderly respondents (29.8%), while the low risk category also has the same results as the non-risk category, namely with a frequency of 36 elderly respondents (29.8%) and for the high risk category with a frequency of 49 elderly respondents (40.5%).

Table 5.
 The relationship between Levels of Independence with the Risk of Falling on the Elderly

Variable	n	<i>Spearman's Rho</i> value	<i>p-value</i>
Levels of Independence with Risk of Fall	121	0.774	0.000

Based on the table above, it can be seen that the respondents in this study amounted to 121 elderly respondents and from the results of statistical analysis related to the relationship between the level of independence in fulfilling daily living activity with the risk of falling in the elderly, it was analyzed using a Spearman's Rho correlation test with ($\alpha=0, 05$), with a significant value obtained between the independent variables, namely the level of independence and the dependent variable, namely the risk of falling, obtaining the same results after the analysis. Thus, it can be concluded that H_a is accepted and H_o is rejected, which means that there is a significant relationship between the level of independence and the risk of falling, with the Spearman's Rho value of 0.774 meaning a strong correlation and positive value with the direction of the relationship where the higher the independence in the elderly, the higher the risk of falling.

Table 6.
 The relationship between Attitudes in Fulfillment of Daily Living Activity with the Risk of Falling on the Elderly

Variable	n	<i>Spearman's Rho</i> value	<i>p-value</i>
Attitude with Risk of Fall	121	0.663	0.000

Based on the table above, it can be seen that the respondents in this study amounted to 121 elderly respondents and from the results of statistical analysis related to the relationship

between attitudes in fulfilling daily living activities with the risk of falling in the elderly, it was analyzed using a Spearman's Rho correlation test with ($\alpha = 0.05$), with a good significant value obtained between the independent variable, namely attitude and the dependent variable, namely the risk of falling, obtaining the same results after the analysis. Thus, it can be concluded that H_a is accepted and H_o is rejected which means that there is a significant relationship between attitude and the risk of falling, with the Spearman's Rho value of 0.663 meaning a strong and positive correlation with the direction of the relationship where the higher the attitude in the elderly, the higher the risk of falling.

DISCUSSION

Independence is a condition or condition of an individual who has a hope of being able to change for the better in order to achieve something good from his life, can even make a decision to be able to solve the problems he faces, have great confidence in himself to be able to carry out his big responsibilities. related to what he does. Based on the results of this study, it was found that the level of independence of the elderly was mostly at the level of independence in the independent category. This research is also in line with research conducted by Suryani, 2018 that there is a relationship between the level of independence in daily activities with the risk of falling in the elderly.

For the level of independence of the elderly, this can be seen from the demographic characteristics of the respondents, namely gender and employment status, where most of them are women and the highest job status is housewives, who generally are women who have a lot of work. activities that must be carried out, related to her work as a housewife who has an obligation to be able to take care of all household chores and can also work to earn a living for her family. This is not in accordance with the research from Sari (2019) that women will experience menopause that causes a decreasing bone manufacture cause from decreased ovarium function makes the hormones estrogen and progesterone makes calcium not storage in the bone. The elderly do not want to burden other people or families to help with work and fulfill daily activities. So with limited help from other people or relatives, it forces the elderly to remain independent in fulfilling their ADL with the will of the elderly who do not want to burden others and their families in fulfilling daily activities. this is according to the research by Erlini (2019) that there is a relationship between the level of elderly independence and the risk of falling.

There are several elderly people who involve other people or families in fulfilling ADL so that their ADL can be fulfilled, namely the elderly whose independence is classified as mild, moderate, severe, and total dependence, where the elderly belonging to that category in In fulfilling their ADL they want the help of others so that their needs can be helped to be fulfilled, namely in ADL fulfillment activities such as moving from bed to chair, mobility, defecation, urination, using the toilet and going up and down stairs, some of these activities are what the elderly need to fulfill with assistance. from other people, because based on the health conditions they experience such as a history of disease suffered by many of the elderly experiencing gout and hypertension, have experienced falls, walking style that has weakened so that the elderly decide to need help from others in fulfilling ADL so that with help from other people or family. This is also supported by the theory according to Rohaedi (2018) that in every development the elderly wants to try to become a person who is able to be independent both in every condition they face and will even be independent in meeting their daily needs without help from others, also called independence.

Attitudes are the actions of individuals or the elderly to try to act in a life to be able to show that they are able to give their best regarding the fulfillment of their daily activities. In this study, the attitude of the elderly in fulfilling ADL with the results of the analysis test proves that most of the elderly respondents belong to the category of good attitudes. For the attitude of the elderly, this can be seen based on the demographic characteristics of the respondents, namely from work status where the most is the status of work as housewife which in general, they have a lot of activities to do, associated with their works which has an obligation to be able to fulfill all work needs. especially when most of the elderly live alone and are no longer together with their families, children or grandchildren, so they try to show an attitude that they are able to do all the work. This good attitude in the elderly is caused because the elderly think they can still do everything well without having to help others, and this is also because the elderly no longer lives with other family members,

When compared with the poor attitude which includes the elderly who have stroke, it is clear they cannot show a good attitude because they are unable to carry out activities such as making beds, cleaning the house, washing clothes, walking up and down stairs, couldn't even keep his balance. This is supported by the theory from Hartono (2016) that the elderly in the development of their lives the elderly wants to make readiness from themselves to be good without any rules in meeting the daily needs of the elderly, be it help from others in real situations and able to provide a response, but the compulsion to be good in fulfilling ADL so that it can be at risk of falling if the elderly has health problems.

The important health status is how to prevent the elderly from experiencing a health problem that allows the elderly to be at risk of falling. From the analysis test results show that most of the respondents are in the high-risk category. For the risk of falling in the elderly in Lirung 1 Village, this can be seen based on the demographic characteristics of the respondents, namely from the elderly age where in this study the researchers found that the most elderly were elderly people aged 60 years and over which with increasing age made the elderly experience a physical condition that will experience a decrease in the function of the limbs, in the elderly at their peak age where the elderly aged 60 years and over will experience a process called aging which will usually be seen with a decrease / change in the function of the elderly body as obtained by researchers Many elderly in Lirung 1 Village have physical condition and health status problems that the elderly experience.

It can be seen from the results of the study based on the history of falls, history of illness, walking aids used, mental status, and the elderly's walking style, namely, in this study the researchers found that there were still elderly people who had a history of falls in the last three months and a history of disease. such as hypertension and gout that often occur in the elderly, so that from diseases that the elderly suffer can cause the elderly to be at risk of falling due to the process of declining health conditions, as for the gait in the elderly, which is obtained from the results of the study the walking style in the elderly looks weak and there is even an abnormal gait / limping so that many elderly people when walking they use a cane and hold on to objects around them. So, if the physical condition of the elderly has decreased function, it can cause the elderly to experience a risk of falling due to decreased organ function such as bones and muscles that are not strong or have weakened and the health problems, they experience so that it can also make it difficult for them to maintain balance when walking. According to researchers, the problem of health conditions here is very influential regarding the incidence of falls because when our health conditions are not good it can lead to the risk of falling to appear, especially in the elderly. Likewise, the way the elderly walk is weak due

to the process of decreasing a musculoskeletal function caused by an aging process, and decreased muscle strength.

This is supported by the theory according to Kartikasari (2019) that an increase in the risk of falling is a cause that is usually found in the elderly, namely the elderly who have reached the age of 60 years and over already have a decrease in physical abilities. However, in addition to the decline in physical abilities that occur in the elderly due to health problems experienced by the elderly themselves, the psychological health of the elderly can also affect and cause the risk of falling in the elderly. Elderly people with a high level of independence who strive to be able to meet the needs of their daily living ADL activities independently, so that the risk of falling increases, plus the elderly who already have setbacks due to the aging process as well as in the decline in the health and physical condition of the elderly.

This research was also supported by Suryani in 2018 with the results that there was a relationship between the level of independence in daily activities and the risk of falling in the elderly. This study has such results, because the elderly walks mostly do not use/require walking aids such as canes, even the elderly have history of disease and weakness in the extremities, so that balance problems in the elderly can cause weak limbs in the elderly to walk, the legs often wobble so that the legs cannot stand properly. Research conducted by Inayah in 2017 also has the same results as research conducted by researchers that there is a relationship between the level of ADL independence with the possibility of being at risk for falling, this is evidenced by the results of research where if there are still elderly people who continue to force themselves to be able to meet ADL needs independently such as trying to go to the toilet on their own even though the condition of walking ability has decreased and the weakness experienced by the elderly even though their physical abilities such as bones and muscles when walking have begun to decrease so that it can cause the elderly to be at risk of falling.

The elderly is at risk of falling because they have more than one disease, the most of which in research conducted by researchers are hypertension, and gout, which symptoms are usually complained of by the elderly, namely pain alone and stiffness of the part itself when walking. This is supported by the theory according to Avionita (2017) that the aging process that occurs in humans is associated with degenerative things that occur in the skin, bones, materials in other body parts, so that the elderly are prone to various diseases and are at risk for falling. The decline in physical conditions that occur in the elderly can be influenced by both psychological and mental conditions so that ADL fulfillment activities can put the elderly at risk for falling.

Elderly people with good attitudes who try to fulfill their daily ADL activity needs well, so that the risk of falling increases, plus the elderly who already have setbacks due to the aging process as well as in the decline in the health and physical condition of the elderly. This study is also in line with research conducted by Deniro in 2017 that in this study had the same results as research conducted by researchers where the elderly with a good attitude tried to be able to carry out daily activities in fulfilling ADL so that they were at risk for falling. The research has the same results if the relationship between high independence activities can be at risk of falling, this is because the elderly trying to be independent even though they are in their age have experienced a decline in balance, and often experience muscle stiffness and even illness and try to remain independent. This is also supported by the theory according to Ari (2018) that in every development the elderly want to try to keep a good attitude to be able

to fulfill their ADL but the problem of weak physical conditions that affect the balance of their body in carrying out activities.

CONCLUSIONS

Indicating that which means that there is a significant relationship between the level of independence and the risk of falling, with the Spearman's Rho value of 0.774 meaning a strong correlation and positive value with the direction of the relationship where the higher the independence in the elderly, the higher the risk of falling. that there is a significant relationship between attitude and the risk of falling, with the Spearman's Rho value of 0.663 meaning a strong and positive correlation with the direction of the relationship where the higher the attitude in the elderly, the higher the risk of falling.

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