

## Correlation Knowledge and Family Attitude with The Risk of Fall the Elderly in Barong Tongkok Health Center West Kutai

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### Abstract

**Introduction:** Elderly or aging is a condition that occurs in human life. Aging is a lifelong process, not only starting from a certain time, but starting from the beginning of life. Growing old is a natural process, which means that a person has gone through three stages of life, namely children, adults and old both biologically and psychologically. Entering old age means experiencing various physical setbacks so that you experience the risk of falling.

**Methods:** In this study, the research design used by the researcher was analytical research. Correlation analytic design with cross sectional approach with a total sample of 86 people.

**Results and Discussion:** obtained p value 0.000 ( $<0.05$ ) which means  $H_1$  is accepted and  $H_0$  is rejected, meaning that there is a relationship between knowledge and family attitudes with the risk of falling in the elderly at Barong Tongkok Health Center West Kutai in 2022.

**Conclusion:** There is a relationship between knowledge and family attitudes with the risk of falling in the elderly at Barong Tongkok Health Center West Kutai in 2022.

**Keyword:** Knowledge; Attitude; Risk of Fall;

## **Introduction**

The problem that is often encountered in the elderly is falling, falling is an event that causes someone to suddenly lie down, sit on the floor or lower place with or without loss of consciousness (Sarah & Sembiring, 2021). Falls are one of the most frequent incidents in the elderly (elderly) resulting in serious trauma such as pain, paralysis and even death, twenty to thirty percent of the elderly who have a high degree of disability related to falls will experience loss of freedom of daily living activities, decreased quality of life and the most concerning is death (Magdalena, 2017)

Elderly or aging is a condition that occurs in human life. Aging is a lifelong process, not only starting from a certain time, but starting from the beginning of life (Hasrul & Muas, 2018). Growing old is a natural process, which means a person has gone through three stages of life, namely child, adult, and old age both biologically and psychologically. Entering old age means experiencing various physical setbacks (Dinata, 2015)

The elderly are a population that is aging and requires an adaptation process to various changes in function and environmental stress caused by a decrease in the body's ability (Listyarini & Alvita, 2018). According to the World Health Organization in 2015, the number of elderly in the world in 2015-2050 is estimated to have doubled from 12% to 22% between 900 people to 2 billion people at the age of more than 60 years.

Based on the current elderly population that exceeds 7 percent of the total population, the world is in the ageing population phase This ageing population phenomenon occurs in all countries, especially in developing countries (Faradilla & Adriani, 2020). In 2012, there were >15 million elderly people in 15 countries, 7 of which were developing countries. Therefore, by 2050 it is estimated that 33 countries with more than 10 million elderly people will have 33 countries and 22 of them are developing countries (Central Statistics Agency, 2021) in (Chrismonika & Prafitri, 2021)

Countries that experience an increase in the number of elderly populations, one of which is Indonesia. This is due to a demographic transition to low birth and death rates. In Indonesia, the number of elderly in 2020 is 26.82 million people / 9.92%, so that Indonesia is in the process of transitioning to a condition of population aging, if the population has exceeded 10 percent, it becomes an aging population structure country (Central Statistics Agency, 2021) in (SILVIA UTAMI, 2022)

Currently, Indonesia has six provinces with a percentage of the elderly of more than 10%. The first position is occupied by the Special Region of Yogyakarta (14.75%) while East Kalimantan is below 10%, which is as much as (5.2%) (Central Statistics Agency, 2021). Meanwhile, the number of elderly in the Barong Tongkok Public Health Centre from January to October 2021 was 625 elderly, 347 men and 287 women (Secondary Data Barong Tongkok Public Health Centre, 2021).

Based on data from the World Health Organization, one in four elderly people falls every year (BKKBN, 2020). While in Indonesia the incidence rate falls in the

elderly by 67.1% where 31-48% is caused by postural balance disorders (Ministry of Health RI, 2016). According to survey data from IFLS (Indonesian Family Life Survey), it explains that the incidence rate falls in the elderly with the age of  $\geq 65$  around 30% and the incidence rate falls at the age of  $\geq 80$  years around 50% (BKKBN, 2020). The figure is expected to increase.

The high elderly population has an impact, one of which is a decrease in the musculoskeletal system, a decrease in fat-free mass or an increase in fat mass, which causes muscle mass strength to decrease. The decrease in muscle strength that occurs is about 30-40%. Especially in the lower extremity muscles will experience a decrease in muscle strength, resulting in balance disorders in the elderly (Yogisutanti et al., 2018)

Balance disorder is the inability of the elderly to maintain body balance while standing (SAPUTRI, 2018). Postural disorders are balance disorders that are often experienced by the elderly, resulting in the elderly experiencing a decrease in the ability to move, small steps, feet cannot tread properly, and falls

As a result of falling in the elderly causing various complications such as fractures, head trauma, immobilization, to death (Putri, 2019), this balance disorder can also cause anxiety for the elderly in activities so that many elderly spend time resting without doing activities. So that there is a decrease in the independence of the elderly to meet their daily needs, namely with the help of others.

To prevent the elderly from falling, knowledge and good behavior are needed by the closest people to the elderly, such as children, grandchildren, daughters-in-law, or other family members. Through knowledge and good behavior, it will create a safe environment for the elderly. Things that can be done are modifying the home environment such as making the floor not slippery, flat floors, no scattered items on the floor, sufficient lighting and not dazzling and reducing the stairs on the path of the elderly walking. About 24% of the elderly fell on the stairs and 36% fell outside (Kamel, Abdulmajeed & Ismail, 2013). The family has an important role for the survival of the elderly for the better, one of which is to prevent falls in the elderly.

Family is the main support system for the elderly in maintaining their health. The family plays an important role in the care and survival of the elderly for the better, one of which is maintaining family support for physiological changes in the elderly. Adequate family support will create a safe environment for the elderly. (Kamel, Abdulmajeed & Ismail, 2013).

Based on research conducted by Siti (2016) said family support is what old age needs, low family support results in impaired elderly health. Elderly with various risks of health problems, especially the risk of falling, can cause trauma and injury to the elderly, thus limiting activities and independence. The results showed that family support provided in the High Family Support category was 17 respondents (43.6%) and the risk of falling into the low category was 28 respondents (71.8%). A p value of 0.000 ( $p < 5\%$ ) is obtained. There is a significant relationship between family support and the risk of falling in Notoyudan neighborhood 24 Pringgoku Totalan Yogyakarta.

Based on the description above, researchers are interested in conducting research on monitoring and family attitudes with the risk of falling in the elderly at the Barong Tongkok Public Health Centre.

### **Method**

This research was conducted from April 1 to April 30, 2022 at the Barong Tongkok Public Health Centre, West Kutai Regency. The type of research conducted is descriptive correlational using a descriptive design with a cross sectional approach, where independent variables and dependent variables are carried out simultaneously at the same time (Nursalam, 2015). The study was conducted to determine the relationship between family knowledge and attitudes with the risk of falling in the elderly at the Barong Tongkok Public Health Centre, West Kutai.

The population in this study was the families of elderly patients as many as 625 people. While the sample in this study was 86 people using *consecutive sampling* techniques where the samples taken were subjects who dated and met the inclusion criteria that had been determined. Data collection was carried out by respondents filling out questionnaires on family attitudes and knowledge about the risk of faith and questionnaires on the incidence of falling risks. The collected data were analyzed univariately with frequency distribution and bivariate with fisher exact test. Data analysis is assisted by using SPSS.

**Result and Discussion****Result****1. Characteristics of Respondents****Table 1**

Characteristics of Respondents of elderly families at the Barong Tongkok West Kutai Public Health Centre in 2022

<b>Characteristic</b>	<b>Frequency</b>	<b>(%)</b>
<b>Gender</b>		
Man	34	39.5
Woman	52	60.5
<b>Age</b>		
<20 years	7	8.1
21-35 years	8	9.3
36-45 years	26	30.2
46-55 years old	45	52.3
<b>Education</b>		
Primary school	6	7.0
Junior High School	20	23.3
High School	47	54.7
Collage	13	15.1
<b>Work</b>		
Farmer	17	18.8
Merchant	14	16.3
Housewives	34	39.5
Private	15	17.4
Civil Servants	6	7.0
<b>Relationship with the elderly</b>		
Child	68	79.1
Brother	18	20.9
<b>Elderly Age</b>		
60-69 years old	33	38.4
70-80 years	47	54.7
>80 years	6	7.0
<b>Diseases Suffered by the Elderly</b>		
Stroke	16	18.6
Vertigo	23	26.7
Hypertension	47	54.7
<b>Total</b>	<b>86</b>	<b>100</b>

Source: Primary Data 2022

Based on table 1 based on gender characteristics, it was found that most respondents were 52 women (60.5%) and 34 men (39.5%). Age characteristics obtained by most respondents were in the range of 46-55 years as many as 45 people (52.3%), then the range of 36-45 years as many as 26 people (30.2%), then 21-35 years as many as 8 people (9.3%) and the age of <20 years as many as 7 people (8.1%). Education characteristics obtained by most respondents with high school education as many as 47 people (54.7%), junior high school education as many as 20 people (23.3%), universities as many as 13 people (15.1%) and elementary education as many as 6 people (7.0%).

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Then the characteristics of work obtained by almost half of the respondents were IRT as many as 34 people (39.5%), farmers as many as 17 people (19.8%), private as many as 15 people (17.4%), traders as many as 14 people (16.3%) and civil servants as many as 6 people (7.0%). The characteristics of relationships with the elderly are almost all respondents have relationships as children as many as 68 people (79.1%) and relatives as many as 18 people (20.9%). The elderly are mostly aged 70-80 years as many as 47 people (54.7%), aged 60-69 years as many as 33 people (38.4%) and aged >80 years as many as 6 people (7.0%). The characteristics of the disease suffered by the elderly are mostly hypertension as many as 47 people (54.7%), vertigo as many as 23 people (26.7%) and stroke as many as 16 people (18.6%).

### 2. Family Knowledge Variables

**Table 2**

Knowledge Frequency Distribution of Elderly Families at Barong Tongkok Public Health Centre, West Kutai in 2022

Knowledge	Frequency	%
Good	46	53.5
Enough	27	31.4
Less	13	15.1
<b>Total</b>	<b>86</b>	<b>100</b>

Source: Primary Data 2022

Based on table 2 on family knowledge, most of the respondents had good knowledge as many as 46 people (53.5%), almost half of the respondents had sufficient knowledge as many as 27 people (31.4%) and a small number of respondents had less knowledge as many as 13 people (15.1%).

### 3. Family Attitude Variables

**Table 3**

Frequency Distribution of Attitudes of Elderly Families at the Barong Tongkok Public Health Centre West Kutai in 2022

Attitude	Frequency	%
Good	44	51.2
Enough	26	30.2
Less	16	18.6
<b>Total</b>	<b>86</b>	<b>100</b>

Source: Primary Data 2022

Based on table 3 on family attitudes, it was found that most respondents had a good attitude as many as 44 people (51.2%), almost half of the respondents had sufficient knowledge as many as 26 people (30.2%) and a small number of respondents had less knowledge as many as 16 people (18.6%).

**4. Event Variables Fall risk****Table 4**

Distribution of Elderly Fall Risk Frequency at Barong Tongkok Public Health Centre, West Kutai in 2022

<b>Risk of Falling</b>	<b>Frequency</b>	<b>%</b>
No Risk <5	51	59.3
At risk $\geq 5$	35	40.7
<b>Total</b>	<b>86</b>	<b>100</b>

Source: Primary Data 2022

Based on table 4 on the risk of falling in the elderly, most of them were not at risk as many as 51 people (59.3%) and almost half of the respondents were at risk as many as 35 people (40.7%).

**5. Bivariate Analysis of the Relationship of Family Knowledge with the Risk of Falling in the Elderly****Table 5**

Analysis of bivariate variables of the relationship between family knowledge and the risk of falling for the elderly at the Barong Tongkok Public Health Centre, West Kutai in 2022

<b>Knowledge</b>	<b>Risk of Falling</b>			<b>P-Value</b>
	<b>No Risk</b>	<b>Risk</b>	<b>Total</b>	
Good	27.3	18.7	46.0	0.000*
Enough	16.0	11.0	27.0	
Less	7.7	5.3	13.0	
<b>Total</b>	<b>51.0</b>	<b>35.0</b>	<b>86.0</b>	

Source: Primary Data 2022

\*Uji Fisher Exact

Based on table 5 Analysis of bivariate variables of the relationship between family knowledge and the risk of falling for the elderly at the Barong Tongkok West Kutai Public Health Centre in 2022, a p value of 0.000 ( $<0.05$ ) was obtained, which means that H1 is accepted and H0 is rejected, meaning that there is a relationship between family knowledge and the risk of falling elderly at the Public Health Centre Barong Tongkok West Kutai in 2022. In the table, sufficient knowledge is obtained but still at risk of falling, this is because there are other factors that affect the risk of falling besides knowledge, such as economic factors so that respondents cannot modify the home environment to be elderly-friendly. Actually, respondents know that to avoid the risk of falling, special handles must be made, but due to limited costs, they cannot modify the home environment.

**6. Bivariate Analysis of the Relationship between Family Attitudes and the Risk of Falling in the Elderly****Table 6**

Analysis of bivariate variables of the relationship between family attitudes and the risk of falling for the elderly at the Barong Tongkok Public Health Centre, West Kutai in 2022

Attitude	Risk of Falling			P value
	No Risk	Risk	Total	
Good	26.1	17.9	44.0	0.000*
Enough	15.4	10.6	26.0	
Less	9.5	6.5	16.0	
<b>Total</b>	<b>51.0</b>	<b>35.0</b>	<b>86.0</b>	

Based on the analysis of bivariate variables, the relationship between family attitudes and the risk of falling for the elderly at the Barong Tongkok West Kutai Public Health Centre in 2022 found a p value of 0.000 ( $<0.05$ ), which means that H1 is accepted and H0 is rejected, meaning that there is a relationship between family attitudes and the risk of falling elderly at the Barong Tongkok West Kutai Public Health Centre in 2022

**Discussion****1. Characteristics of Respondents**

Based on gender characteristics, it was found that most respondents were 52 women (60.5%) and 34 men (39.5%). This is in accordance with the opinion of Friedman (2016) who said that family members, especially women, have an important role as primary caregivers in patients. Women in their role as mothers, of course, have a more sensitive emotional instinct in caring for their sick members. Women by their nature are created more patient, painstaking and affectionate. According to the researcher's assumption, women are more dexterous in caring for the family, including the elderly at home, so that if there are women at home, the elderly feel safer because someone takes care of it.

Age characteristics obtained by most respondents were in the range of 46-55 years as many as 45 people (52.3%), then the range of 36-45 years as many as 26 people (30.2%), then 21-35 years as many as 8 people (9.3%) and the age of  $<20$  years as many as 7 people (8.1%). Age distribution shows that most respondents are adults who already have responsibilities towards family members or others. A person's age is generally related to one's level of knowledge. This is as stated by Notoatmodjo (2017) who suggests that factors that affect the level of knowledge, including age in the patient's family, affect a person's comprehension and mindset. As you get older, the more your grasp and mindset will develop. According to the researchers as assumption the older he gets, the more knowledge he gets because of the more often he socializes with others.



Most respondents had high school education (47 people (54.7%), 20 junior high school education (23.3%), 13 universities (15.1%) and 6 elementary school education (7.0%). The level of education i.e., education possessed by respondents is good enough to support respondents to understand their role in elderly care. Perry & Potter (2015) state that education level can increase knowledge about health. Education is a very important thing in influencing one's mind. According to the assumption of researchers, an educated person when encountering a problem will try to think as well as possible in solving the problem. Well-educated people tend to be able to think calmly about a problem.

Most of the respondent's obtained jobs were IRT as many as 34 people (39.5%), farmers as many as 17 people (19.8%), private as many as 15 people (17.4%), traders as many as 14 people (16.3%) and civil servants as many as 6 people (7.0%). housewives (36%). Work as housewives gives them the opportunity to keep working while caring for the elderly who are at home, and who continue to work is their husbands. Work deals with one's self-actualization and encourages a person to be more confident and responsible for completing tasks. According to the researchers' assumptions, someone who works with hectic activities and experiences high stress on work can influence the person in caring for the elderly. Relationships with the elderly Most respondents have relationships as children as many as 68 people (79.1%) and relatives as many as 18 people (20.9%). Children are part of the nuclear family, have more inner ties to their father / mother. As a form of filial piety to parents, children will take care of their elderly parents as much as possible.

According to Friedman (2016), the family is a group of people connected by marriage, adoption and birth that aims to create and maintain a common culture, increasing the physical, mental, emotional, and social development of the individuals in it as seen from interdependent interaction patterns to achieve common goals. According to the assumption of researchers, the elderly are increasingly happy when cared for by their own families, thus extending the life of the elderly.

The elderly are mostly aged 70-80 years as many as 47 people (54.7%), aged 60-69 years as many as 33 people (38.4%) and aged >80 years as many as 6 people (7.0%). The older a person is, the more physical deterioration will be, one of which is a slowdown in movement, impaired balance, mobility, and diseases that occur due to the aging process (Friedman, 2016). According to the research's assumption, the older the age, the greater the elderly are at risk of falling, so supervision by close family is needed.

The diseases suffered by the elderly were mostly hypertension as many as 47 people (54.7%), vertigo as many as 23 people (26.7%) and stroke as many as 16 people (18.6%). Hypertensive disease is often suffered by the elderly due to reduced flexibility of blood vessels due to increasing age, this makes the heart work harder to pump blood, resulting in increased hypertensive blood pressure (Price, 2014). According to the assumption of hypertension researchers, diseases that are often suffered by the elderly

due to a decrease in body functions that first occur are the ability of the heart to pump blood so that the elderly are prone to hypertension.

## **2. Family Knowledge**

Based on family knowledge, most of the respondents had good knowledge as many as 46 people (53.5%), almost half of the respondents had sufficient knowledge as many as 27 people (31.4%) and a small number of respondents had less knowledge as many as 13 people (15.1%). The results of this study are in accordance with Kurniawan's research (2016) The relationship between family knowledge and behavior with the risk of falling in the elderly in Pondok Karangnom Village, Klaten, most respondents have good knowledge as much as 56.7%.

The results of this study are also reinforced by previous studies such as in research (Rahayu & Isnaeni, 2017) The Relationship of Family Support Knowledge with the Risk of Falling at Home in the Elderly in Notoyudan Neighbor 24 Pringgoku Totalan Yogyakarta said that knowledge is very influential on the risk of falling in the elderly. Knowledge is the main basis for a person in making decisions and acting. Knowledge itself is not only obtained at school but can also be from the surrounding environment both from print media and from electronic media.

The good knowledge that families have is due to the good search for information about the risk of falling in the elderly either through print media, electronic media, besides that most elderly families either understand from explanations or counseling provided by local health workers.

Many factors affect knowledge including the level of education. The level of education is one of the factors that allow knowledge to occur. Most knowledge is obtained through formal and non-formal education and the higher the education, the wider one's knowledge.

This is in accordance with the theory put forward by Notoatmodjo (2016) that education is an effort to provide knowledge so that there is an increased positive behavior, in this case regarding the prevention of the risk of falling in the elderly. Knowledge is a result of knowing that occurs after a person senses a particular object, through the senses of sight, hearing, smell, feeling and touch. And most human knowledge is acquired through sight and hearing, only a few are acquired through smell, feeling and touch.

There are so many problems that occur in the elderly, one of which is falling. Problems such as falls must be prevented by taking good care of the elderly. Caring for the elderly at home is not an easy job because this requires good knowledge.

According to the researchers' assumptions, caring for the elderly cannot be done alone but must also involve family members. Family is the main support system for the elderly in maintaining their health. Family plays an important role in the care of the elderly.

### **3. Family Attitude**

Based on family attitudes, it was found that most respondents had a good attitude as many as 44 people (51.2%), almost half of the respondents had sufficient knowledge as many as 26 people (30.2%) and a small number of respondents had less knowledge as many as 16 people (18.6%). The results of this study are in line with Setyabudi's (2016) research on the relationship between family support attitudes and the risk of falling at home in the elderly in Notoyudan Neighbor 24 Pringgoku Totalan Yogyakarta with good family attitudes as much as 58.9%.

In this study, many families behaved well by taking the elderly to health services to check their health, accompany the elderly to do activities, use safe household appliances, facilitate the elderly when defecating, and know the medicines taken by the elderly.

This is in accordance with the theory put forward by Darmojo (2017) which suggests that prevention efforts are steps that must be taken because if there has been a fall, there will be complications, although mild is still burdensome. Therefore, to prevent falls, families must have knowledge about fall prevention. Knowledge of an object becomes an attitude if that knowledge is accompanied by a readiness to act. Attitude is a person's readiness to act. Attitudes can be positive, that is, there is a tendency for actions to approach, like, and expect certain objects and attitudes can be negative, namely the tendency to avoid, avoid, and distrust certain objects.

According to the researcher's analysis, an attitude is not necessarily automatically manifested in an action. To realize a positive attitude into a real action, supporting factors are needed such as facility factors and support factors from the family. In meeting facilities to prevent falls such as making handles on the bathroom, the family needs costs.

### **4. Fall Risk Event**

Characteristics about the risk of falling in the elderly were found to be mostly not at risk as many as 51 people (59.3%) and at risk as many as 35 people (40.7%). The results of this study are in line with Setyabudi's (2016) research on the relationship between family support attitudes and the risk of falling at home in the elderly in Notoyudan Neighborhood 24 Pringgoku Totalan Yogyakarta with most not at risk as much as 60.9%.

Risk of a fall is an event that causes a person to suddenly lie down or sit on the floor or lower place with or without loss of consciousness or injury. One of the tests for gait and balance is the time up and go test. The elderly are asked to get up from the chair, walk three meters, turn around, and walk, then sit back, without the help of others, but are allowed to use commonly used aids, such as canes or walkers. A time score of more than 30 seconds indicates walking disorders with a risk of falling (Dewi & Ners, 2015). Falls are one of the most frequent incidents in the elderly. Falling is an event that causes a person to suddenly lie or sit on the floor with or without loss of consciousness or injury (Darmojo, 2014). Falls can occur when the body's postural

control system fails to detect the shift and does not reposition the center of gravity against the body's support in a timely manner.

According to the researchers' assumptions, the quantity of the elderly that continues to increase is inversely proportional to the quality of life of the elderly who are less noticed. The elderly should get extra attention from the family first. The elderly have a lot of physical problems, one of which is losing body balance and falling.

## **5. Bivariate Analysis of the Relationship of Family Knowledge with Fall Risk Events**

Based on the analysis of bivariate variables, the relationship between family knowledge and the risk of falling for the elderly at the Barong Tongkok West Kutai Public Health Centre in 2022 found a p value of 0.000 ( $<0.05$ ), which means that H1 is accepted and H0 is rejected, meaning that there is a relationship between family knowledge and the risk of falling elderly at the Public Health Centre Barong Tongkok West Kutai in 2022. This is in accordance with Kurniawan's research (2017) which states that there is a relationship between family knowledge and the risk of falling in the elderly.

This situation can be influenced by the education of respondents who are mostly high school so that respondents try to find information about the prevention of falls in the elderly and because of the high level of education, respondents are easier to receive information. For behavior, it can be caused because respondents realize that by making environmental modifications and maintaining the health of the elderly will reduce the incidence of falls in the elderly.

The problem that arises is that although supported by good knowledge, the risk of falling is still high. The risk of falling is still high because the family has not fully provided a good environment for the elderly due to family socioeconomic factors that are not supportive. Based on observations made, researchers found that although most family jobs are self-employed, they have not been able to fully meet the family's economic needs, let alone modify a good environment for the elderly.

This is evidenced by the home environment that is still dangerous for the elderly, such as slippery floors, the absence of handles in the bathroom, many high stairs that make it difficult for the elderly, objects are still found scattered on the floor of the house and lighting is still lacking for the elderly, because most of the lighting for the elderly in the village still uses yellow bulbs. A dangerous environment is very influential on the incidence of fall risk in the elderly.

In addition to respondents' knowledge, what is more important is the declining health of the elderly because of the comorbidities of the elderly, namely hypertension, will affect physical weakness in the elderly. As a result of this physical weakness, the muscles of the elderly are getting weaker, decreased gait balance and decreased sensory, especially vision and hearing. This is supported by Eldelberg's research (2006) entitled "Evaluation and Management of Fall Risk in older Adult" which states that muscle weakness, decreased gait, chronic diseases, and sensory decline in the elderly are

intrinsic factors in the risk of falling in the elderly. Both factors, namely a bad environment that is not supported by family socioeconomic status and declining elderly health caused by aging factors and comorbidities of the elderly, namely hypertension, cause the incidence of falling risk in the elderly is still high even though family knowledge and behavior are good in preventing the risk of falling in the elderly.

To prevent the elderly from falling, good knowledge is needed by the closest people to the elderly, such as children, grandchildren, daughters-in-law, or other family members. Through good knowledge, it will create a safe environment for the elderly.

Things that can be done are modifying the home environment such as making the floor not slippery, flat floors, no scattered items on the floor, sufficient lighting and not dazzling and reducing the stairs on the path of the elderly walking. About 24% of the elderly fall on the stairs and 36% of falls occur outside (Kamel et al., 2013)

#### **6. Bivariate Analysis of the Relationship of Family Attitudes with the Incidence of Fall Risk**

Based on the analysis of bivariate variables, the relationship between family attitudes and the risk of falling for the elderly at the Barong Tongkok West Kutai Public Health Centre in 2022 found a p value of 0.000 ( $<0.05$ ), which means that H1 is accepted and H0 is rejected, meaning that there is a relationship between family attitudes and the risk of falling elderly at the Barong Tongkok West Kutai Public Health Centre in 2022.

This result is in accordance with Rahmawati's research (2017) which states that there is a relationship between attitude and the risk of falling elderly at the Semarang Pusposari Public Health Centre. The results of this study showed that respondents who had a good attitude mostly carried out efforts to prevent the risk of falling in the elderly. Researcher's assumption that one of the factors that influence a person's positive attitude can be seen from his level of education. When viewed from educational background, respondents are mostly Senior High School education, included in the category of secondary education so that the level of knowledge possessed by the person, so that they will have a good attitude in preventing the risk of falling in the elderly.

According to the assumption of researchers it needs to be emphasized that someone who is poorly educated does not mean absolute low knowledge and will have a negative attitude as well, because the learning ability that a person has varies which can also affect his knowledge and attitude, with good learning ability someone will tend to get more information both from others and from mass media. The more information obtained; the more knowledge gained.

#### **Conclusion**

The relationship between family attitudes and the risk of falling for the elderly at the Barong Tongkok West Kutai Public Health Centre in 2022 obtained a p value of 0.000 ( $<0.05$ ), which means that H1 is accepted and H0 is rejected means that there is a

relationship between family attitudes and the risk of falling for the elderly at the Barong Tongkok West Kutai Public Health Centre in 2022.

According to the assumption of researchers, family knowledge has an important role for the survival of the elderly for the better, one of which is the attitude of preventing falls in the elderly

### Reference

- Chrismonika, W. A., & Prafitri, L. D. (2021). Gambaran Perbaikan Kondisi Fungsi Kognitif Pada Lanjut Usia (Lansia) Sebelum Dan Setelah Pemberian Brain Gym: Literature Review. *Prosiding Seminar Nasional Kesehatan*, 1, 2105–2112.
- Dewi, S. R., & Ners, S. K. (2015). *Buku ajar keperawatan gerontik*. Deepublish.
- Dinata, W. W. (2015). Menurunkan Tekanan Darah Pada Lansiamelalui Senam Yoga. *JORPRES (Jurnal Olahraga Prestasi)*, 11(2).
- Faradilla, H., & Adriani, L. (2020). Hubungan Kualitas Tidur Dengan Tekanan Darah Pada Lansia Hipertensi. *Darussalam Indonesian Journal Fo Nursing and Midwifery*, 2(2), 68–75.
- Hasrul, H., & Muas, M. (2018). Pengaruh kompres hangat terhadap penurunan intensitas nyeri gout arthritis pada lansia. *JIKP Jurnal Ilmiah Kesehatan Pencerah*, 7(2), 84–89.
- Kamel, M. H. Ismail, S. E.-S. (2013). Risk factors of falls among elderly living in Urban Suez-Egypt. *Pan African Medical Journal*, 14(1).
- Listyarini, A. D., & Alvita, G. W. (2018). Pengaruh Balance Exercise Terhadap Keseimbangan Tubuh Lansia di Desa Singocandi Kabupaten Kudus. *JIKO (Jurnal Ilmiah Keperawatan Orthopedi)*, 2(2), 31–38.
- Magdalena, I. (2017). Pengaruh Core Stability Exercise Terhadap Risiko Jatuh Pada Lanjut Usia Di Panti Sosial Tresna Werdha Gau Mabaji Gowa. *Skripsi. Makassar: Universitas Hasanudiin*.
- Putri, P. N. E. S. D. P. (2019). *Pengaruh Biomekanik Terhadap Risiko Jatuh pada Lansia di Wilayah Kerja UPT. Kesmas Sukawati I Tahun 2019*. Poltekkes Denpasar.
- Rahayu, S. N., & Isnaeni, Y. (2017). *HUBUNGAN DUKUNGAN KELUARGA DENGAN RISIKO JATUH DI RUMAH PADA LANSIA DI NOTOYUDAN NEIGHBOURHOOD 24 PRINGGOKUSUMAN YOGYAKARTA*. Universitas' Aisyiyah Yogyakarta.
- SAPUTRI, W. A. (2018). *Penerapan Balance Exercise Pada Lansia Dengan Gangguan Keseimbangan Tubuh Di BPSTW Abiyoso*. poltekkes kemenkes yogyakarta.

Sarah, M., & Sembiring, E. (2021). Efektivitas Hendrich Fall Scale (HFS) dan Morse Fall Scale (MFS) dengan penilaian risiko jatuh pada lansia. *Jurnal Riset Hesti Medan Akper Kesdam I/BB Medan*, 6(1), 21–27.

SILVIA UTAMI, S. U. (2022). *PENGARUH SENAM LOW IMPACT TERHADAP PERUBAHAN TEKANAN DARAH PADA LANSIA PENDERITA HIPERTENSI DI PANTI SOSIAL HARAPAN KITA PALEMBANG TAHUN 2022*. STIK Bina Husada Palembang.

Yogisutanti, G. Simangunsong, D. S. U. (2018). Pengaruh senam Tai Chi terhadap fleksibilitas dan kekuatan otot ekstremitas pada lansia di gereja Bandung Barat. *Journal of Public Health Research and Community Health Development*, 2(1), 60–68.

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