



## Effectiveness of Social Support and Self-Efficacy on the Level of Physical Activities of the Elderly

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### **Abstract**

The elderly group needs special attention because they experience changes in terms of function, role, and adaptation to the environment. This study focused on exploring the most dominant factors that affect the physical activity level of the elderly in a nursing home. This study used several theories, namely, the trans theoretical model of health behavior change, social support, and self-efficacy. This study used a mixed-method on 43 participants determined using judgment sampling. Quantitative instruments used were the Patient-Centered Assessment and Counseling for Exercises scale, Social Support Scale, and Self-Efficacy scale. Qualitative instruments used were in-depth interviews and focus group discussions. Quantitative data underwent descriptive analysis and regression using SPSS version 13.0. Meanwhile, qualitative data were processed using InVivo version 2.0. The quantitative data analysis shows that social support had a significant influence on the physical activity level of the elderly, whereas self-efficacy had no significant influence on the physical activity level of the elderly. Nevertheless, based on the qualitative data analysis, self-efficacy had a significant influence on the physical activity level of the elderly. Hence, it can be concluded that the physical activity level of the elderly can be maintained with social support in a nursing home environment. Thus, to maintain the physical activity level of the elderly, a self-monitoring program should be created.

**Keywords:** *Social Support; Self-Efficacy; Self-Monitoring; Physical Activity Level*

### **Introduction**

According to the 2010–2035 population projection, Indonesia will enter the aging population period, during which 10% of the population will be aged 60 years and over (*Infodatin Situasi Lanjut Usia, 2016*). The elderly, as humans, need special attention, especially during a pandemic. After entering the new normal era, the elderly still has to maintain complete health. The aging process results in physical, mental, and social changes. Physical changes can be in the form of a decrease in organ function, resulting in a decrease in the level of health. Based on *Riskesdas* (2013), the most common diseases in the elderly were hypertension, arthritis, stroke, chronic obstructive pulmonary disease, and diabetes mellitus. Furthermore, *Riskesdas* (2018) found that heart disease still ranks first as a disease suffered by the elderly. Changes in chronic disease in the elderly lead to a decrease in morbidity due to infectious diseases and an increase in morbidity from degenerative diseases.

In 2016, the government announced National Elderly Day with the slogan “Elderly Healthy, Elderly Active, and Productive” (*Infodatin Situasi Lanjut Usia, 2016*). One of the programs is “regular

exercise or light physical activity 30 minutes a day.” WHO (2020) defined healthy aging as the process of developing and maintaining functional abilities to enable well-being in old age so that the elderly can 1) meet their basic needs; 2) learn, grow, and make decisions on their own; 3) build and maintain relationships; 4) contribute to society; and 5) can mobilize. Pajares and Urdan (2006) defined physical activity as all bodily activities involving muscle contraction and energy expenditure. There are several activities classified as physical activities, namely, sports, dancing, and leisure time activities (physical leisure time activities). According to the Yale Physical Activity Survey, physical activity is classified into five dimensions, namely, vigorous activity, leisurely walking, moving on feet, standing, and sitting (Riebe et al., 2005).

Chen et al. (2014) studied the elderly in Shanghai China and found that gender, self-health assessment, number of chronic diseases, depression, and social support had a relationship with physical activity levels. A subsequent study by McPhee et al. (2016) concluded that the elderly can be encouraged to increase their activities when being influenced by doctors, family, or friends; low-cost but comfortable group activities, and self-efficacy for exercise.

Social support is a treatment from the closest people in the form of love, attention, appreciation, and appraisal and is one part of communication and a form of obligation relationship from parents, spouse or loved ones, other family members, friends, and society and community (Taylor, 2006). People with good social support will experience less stress than those with little social support.

Taylor (2006) divided several forms of social support, namely, 1) tangible assistance or social support in the form of physical or material objects or materials, such as the assistance of money or necessities; 2) informational support to help individuals understand the stressful event better and explain the resources and coping strategies used to adapt to the stress; and 3) emotional support or social support in the form of a warm touch and affection from family, friends, and closest people.

A study by Qin et al. (2020) on the elderly in China found that the development of self-efficacy can serve as an important strategy to buffer the negative effects of weakness on the elderly. A study by Ismail et al. (2015) on 408 elderly with PASE (Physical Activity Scale for Elderly) found that this tool is useful for assessing the physical activity level of the elderly in Malaysia. Nevertheless, PASE measures physical activity level based on self-reports by respondents. For the elderly living with their family, there are family members who can help monitor their physical activities. However, this is different if the elderly live in a nursing home; they need social support from nursing home staff and self-efficacy.

Studies on self-efficacy by Rovniak et al. (2002), Trost et al. (2002), Gorin and Arnold (2006) found a positive relationship between social support, self-efficacy, and physical activity. Bandura (1986) stated that personal and environmental factors interact to determine behavior and can influence each other. An individual with high self-efficacy tends to work harder, try harder in completing tasks, and continuously complete the task despite facing obstacles (Orsega-Smith et al., 2007). A study on self-efficacy in the elderly related to the construct of developmental level, family, friends, and caregivers. The life of the elderly in the nursing home has its own unless and characteristics in terms of the relationship between the elderly. Supposedly, the elderly living in nursing homes remain healthy and with good quality of life.

This study was conducted at the Panti Sosial Tresna Werdha (PSTW) Budhi Dharma Bekasi. This place is used as a research location because of the nature of homogeneity. Some elderly before living in a nursing home did not have a place to live and did not get good care from their family, although there were elderly people who wanted to live in a nursing home. One of the health promotion activities implemented by nursing home management is fitness service. Fitness service is in the form of exercise twice a week for 1 h from 7 to 8 am, including osteoporosis exercise once a week.

This research can be used so that the elderly 1) can know the physical activity level, 2) can know the most dominant factors affecting their physical activity levels, and 3) can draft a self-monitoring intervention to help nursing home staff monitor their health.

## Material and Methods

### Design

This study used a mixed-method with a quantitative approach strategy along with a qualitative approach in one study period. A quantitative approach was used to see the physical activity level, and a qualitative approach was used to explore more deeply social support and self-efficacy related to the physical activity of the elderly.

Hypothesis 1: There is a significant relationship between self-efficacy and the physical activity level of the elderly. Hypothesis 2: There is a significant relationship between social support and the physical activity level of the elderly. Hypothesis 3: There is an influence of elderly health status on the physical activity level of the elderly.

Physical activity was divided into five sequential categories, namely, pre-contemplation, contemplation (2), preparation (3), active (4), and maintenance (5). Moreover, the independent variables studied were self-efficacy ( $x_1$ ) and social support ( $x_2$ ). The first independent variable ( $x_1$ ) was divided into three categories: Low = 0, Medium = 1, and High = 2, while the second independent variable was divided into three categories, namely, Never = 0, Rarely = 1, and Often = 2. On Based the characteristic of the independent variable and the response variable, this case was classified into the ordinal logistic regression model.

Furthermore, inferential data were processed using logistic regression or the basic method to analyze the response variable (independent variable) comprising two or more categorical data types with one explanatory variable (dependent variable). If there are several categories of ordered responses or ordinal scales, a specific model can be made as a modification of the binary logistic regression model, that is, ordinal logistic regression. Figure 1 explains the relationship between variables.

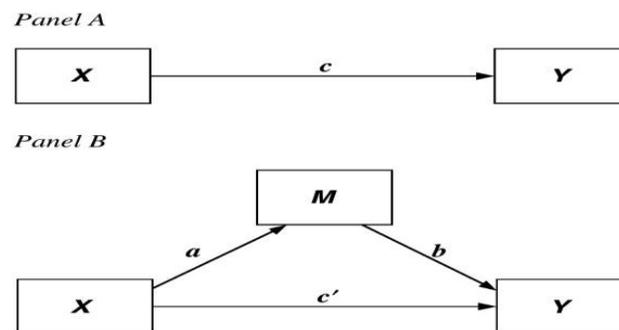


Figure 1. Direct relationship and relationship through M variable

Panel A describes the model between the  $y$  response (physical activity) and the independent variable  $x_2$  (social support) directly. Meanwhile, in panel B, there is a mediator variable, namely,  $x_1$  (self-efficacy), which has an indirect effect on  $y$ . In panel B, there are three relationships between the response ( $y$ ), the independent variable  $x_2$ , and the mediator variable  $x_1$ . The symbol ( $a$ ) in panel B illustrates the relationship between  $x_2$  and  $x_1$ . The symbol ( $b$ ) in panel B illustrates the relationship between the mediator variable  $x_1$  (symbol M) and the response ( $y$ ). The symbol ( $c'$ ) in panel B illustrates the relationship between  $x_2$  and  $y$  with the mediator variable  $x_1$  (Figure 2).

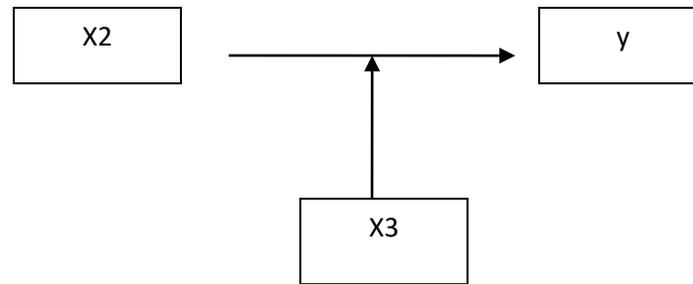


Figure 2. Relationship of social support (x2) and physical activity (y) influenced by physical health status (x3)

### Participants

Participants were selected by judgment sampling or selected by a conditional selection process. The samples were elderly in a nursing home, had no health problems (based on medical records in nursing homes), could speak Indonesian, and were male and female. There were 43 elderly participants and five nursing home staff as informants for qualitative data collection.

Using the information from nursing home staff, 30 people participated, whereas the other elderly chose other activities in the fields of art, gardening, religion, and others. Some of the elderly did not attend because they felt lazy, did not feel well (relapsed bone pain), and did not want to because they had prior activities. A total of 15 people did not participate because they could not do physical activities or were seriously ill.

### Location

Founded in 1971, PSTW Budhi Dharma Bekasi is a nursing home owned by the Ministry of Social Affairs. Now, the nursing home has 111 elderly clients with ages ranging from 60 to 90 years. The elderly in this nursing home are veterans, retired civil servants, and the public (private workers and the homeless or those not being recognized by their families). The ratio of nursing home officers to the elderly is 1:22, that is, one provider serves 22 elderly. Consequently, the elderly must have enough discipline and responsibility in taking care of themselves.

### Measuring Instruments and Data Collection Techniques

Physical activity level was measured with PACE (Patient-centered Assessment and Counseling for Exercises) (Gorin & Arnold, 2006). This tool has been adjusted in advance according to the physical activities usually conducted by the elderly in Indonesia. There are two PACE formats, namely, 1) Physical Activity Readiness Questionnaire format. This format is only used for respondents who are not being treated, are not bed rested, suffer from diseases due to infections of the respiratory tract, digestive tract, and other internal organs to reduce sample bias. 2) Client's Current Physical Activity Status Format. This format consists of eight items, namely, item 1 indicates precontemplation, item 2 indicates contemplation, items 3 and 4 indicate preparation activity, items 5–7 indicate the active level, and item 8 indicates maintenance (Riebe, et al., 2005).

Physical activity was divided into five sequential categories, namely, precontemplation), contemplation (2), preparation (3), active (4), and maintenance (5). Furthermore, the independent variables studied were self-efficacy (x1) and social support (x2). The first independent variable (x1) was divided into three categories: Low = 0, Medium = 1, High = 2, while the second independent variable was divided into three categories, namely: Never = 0, Rarely = 1, Often = 2. Based on the characteristics of the independent variable and the response variable, this case was classified into the ordinal logistic regression model.

Self-efficacy was measured using the Self-Efficacy scale for Exercise (Bandura, 1997). This scale comprises 18 items, with scores ranging from 0 to 100. A score of 0–40 is a low self-efficacy group, a score of 50–70 is a middle self-efficacy group, and a score of 80–100 is a high self-efficacy group. This self-efficacy is an independent variable influencing the physical activity level of the elderly.

Social support was measured using the Social Support scale (Chogahara, 1999) comprising 15 items. Items 1, 2, 3, and 5 show companionship support; items 4, 6, 7, 8, 9, and 10 show informational support; and items 11–15 show emotional support. Social support is an independent variable that influences physical activity. This social support uses a range of 0–2 according to the Likert scale, with 0 meaning never received social support at all, 1 meaning rare, and 2 meaning often gets social support from friends or health workers.

Qualitative data were collected with guidance interviews. Social support questions refer to Taylor's model, whereas self-efficacy questions refer to Richeson et al. (2006) model, namely, vicarious experiences (as a role model), accomplishments (the ability to perform main tasks), and verbal persuasion (encouragement from others in the form of words), and physiological arousal or increased attention to somatic signals. In-depth interviews were conducted on the elderly and nursing home staff as informants.

Another technique was Focus Group Discussion (FGD), which was applied to explore perceptions on physical activity. FGD was divided into four groups, that is, two groups of elderly men and two groups of elderly women.

### ***Data Analysis***

Quantitative data were analyzed first using SPSS version 13.0. Quantitative analysis includes descriptive analysis and regression analysis. Qualitative data were collected through in-depth interviews and FGD and processed using InVivo version 2.0 (Dahlan, 2004).

## ***Results and Discussion***

### **Results**

#### **Quantitative Data Analysis**

Table 1 showed that of the 43 participants, 19 aged 61–67 years (41.79%), 15 aged 68–74 years (34.33%), six aged 54–60 years (13.95%), and two aged 82–88 years (9.93%). Of the elderly, 86.57% are Muslims and 13.43% are Christians; 31.34% graduated from elementary school, 17.91% graduated from junior high school, and the rest did not finish school. Of them, 26.87% are Javanese and 14.93% are Sundanese; the rest are from Sumatra and Kalimantan. Before the elderly living in a nursing home, a total of 73.13% come from the public/private sector (such as traders, private employees, laborers, and others) and 8.96% are veterans. The elderly are mostly widows and widowers. The most dominant reason for living in a nursing home was that the elderly want to live together with other elderly people (22.39%). Family members who often visit were children (26.87%). Usually, the child who lives closest to the nursing home (in terms of distance). The frequency of meeting with family most often was once a month (23.88%), but the quality of the meeting itself is not known. Family members who often visit were biological children. As many as 52.24% of the elderly living in nursing homes were covered by the government. However, only a small portion (4.48%) was borne by the family members (in this case, children) by participating in an independent program. Most (52.24%) elderly have friends or close friends in nursing homes. The relationship created between the elderly and caregivers was 50.75% good, and the rest of the respondents claimed to have a very good relationship (26.25%) and quite good (23%).

Table 1. Sociodemographic data

		%
Marital status	Widow	100
	Widower	100
Age group	54–60	13.95
	61–67	41.79
	68–74	34.33
	82–88	9.93
Religion	Islam	86.57
	Christianity	13.43
Education level	Uneducation	50.75
	Primary	31.34
	Elementary	17.91
Ethnicity	Java	26.87
	Sunda	14.93
	Another	59.18
Job-status before living in a nursing home	Unemployed	73.13
	Veteran	8.96
	Retired	17.91
Reasons to live in a nursing home	No children	52.61
	Independent life	22.39
	Homelessness	25
Family members who often visit	Children	26.87
	Relatives	27
	None	46.13
Frequency of meeting with family	1 per month	23.88
	>1 per month	25
	None	51.12
Financing	By government	52.24
	Independent program	47.76
Friendship relationship	Quite good	23
	Good	50.75
	Very good	26.25

Based on the tabulation of data on physical activity, six respondents (14.0%) were classified into the contemplation group, 18 respondents (41.9%) were classified into the preparation group, eight respondents (18.6%) were classified into the active group, and 11 respondents (25.6%) were classified into the maintenance group. Based on the tabulation of data on self-efficacy, one person (2.3%) was classified into low self-efficacy; 18 people (41.9%), into the moderate self-efficacy group; and 24 people (55.8%), into high self-efficacy. Based on the tabulation of data on social support, out of 43 respondents, 12 (27.9%) rarely received social support and 31 (72.1%) often received social support. Based on the tabulation of data on physical activity, of the 43 respondents, six (14.0%) were classified into the precontemplation; 18 (41.9%), into the preparation group; eight (18.6%), into the active group; and 11 (25.6%), into the maintenance group. Based on the tabulation of data on self-efficacy, of the 43 respondents, one (2.3%) had low self-efficacy, 18 (41.9%) had moderate self-efficacy, and 24 (55.8%) had high self-efficacy. Based on the tabulation of data on social support, out of 43 respondents, 12 (27.9%) rarely or occasionally received social support and 31 (72.1%) often received social support.

Physical activity levels are classified on the based threshold value ( $y = 1$ ), threshold ( $y = 3$ ), and threshold ( $y = 4$ ) or the estimated intercept value for cumulative opportunities from contemplation,

preparation, and active, whereas contemplation did not exist because no respondents were included in this group. The maintenance group did not exist because the cumulative chance was 1, so it was not displayed.

Based on the simultaneous parameter significance test, with a p-value of 0.316, if an alpha level of 15% was used, then it cannot be concluded that the ordinal regression model with explanatory variables  $x_1$  and  $x_2$  had a significant influence on  $y$ . Nevertheless, if the partial test had an alpha level of 15%, then only the  $x_2$  variable significantly influenced the  $y$  variable. Hence, the next step was to build an ordinal regression model using only the explanatory variable  $x_2$ . Based on the simultaneous parameter significance test, the p-value was 0.077. If an alpha level of 10% was used, then it cannot be concluded that the ordinal regression model with the variable  $x_2$  significantly influenced  $y$ . A less sensitive measure of the model feasibility was used by examining a case in the social field, namely, the Pearson method. Based on the feasibility test of the model using the Pearson method, the p-value was 0.130; thus, it can be said that the model was quite feasible at 10% alpha. Besides using the ordinal logistic regression model with the response  $y$  and the independent variable  $x_2$ , this model added a mediator variable  $x_1$ . The author used SAS (Statistics Analyzing Software) version 9.1 because SPSS was not sensitive enough to prove the relationship between  $y$ ,  $x_1$ , and  $x_2$ .

Using the output of SAS 9.1 using the Sobel test on the Bootstrap distribution to test the effect of the mediator on the response with the independent variable  $x_2$ , the following results were obtained:

$$H_0: \beta(y|x_1.x_2) = 0 \text{ vs } H_1: \beta(y|x_1.x_2) \neq 0$$

With the p-value of 0.6635 on the Sobel test,  $H_0$  was accepted; thus,  $x_1$  is most likely not a mediator variable in the model with the response variable  $y$  and the independent variable  $x_2$ . Based on the p-value of 0.030 at 10% alpha,  $H_0$  was rejected and the researcher concluded that  $x_3$  significantly influenced the relationship between  $x_2$  and  $y$ . In other words,  $x_3$  is a confounding variable on the response variable  $y$ .

### Qualitative Data Analysis

In-depth interviews were conducted on five nursing home staff comprising one social worker serving as the head of the client service section, one doctor, one nurse, one psychologist graduate, and one implementing social worker. Interviews were conducted separately. The data explored were perceptions regarding physical activity, including definitions, benefits, obstacles faced, supporting factors, and efforts made by officers as well as institutional policies on physical activity. Additionally, the author wants to know more about the social support provided by the staff to the elderly.

Based on the results, elderly women are more often physically active than men. Nursing home staff divide physical activities into various types, depending on their interest and attention to the use of free time, such as morning walks, krida prana exercise, jogging, and gardening. Elderly men do a lot of physical activities in the form of planting, gardening, and cleaning, whereas women do physical activities in the form of gymnastics and cleaning the homestead.

The information from health staff regarding the perception of the elderly about the efforts to maintain a healthy body shows that most of the elderly like to come to the clinic to just ask for medicine. Kinds of drugs can vary, ranging from skin medications such as powder and balm to headache medication. The elderly feel comfortable when storing medicine. Even when the elderly are not sick, if they see friends coming with medicine from the clinic, the elderly are also trying to get the same medicine.

The staff at the nursing home considers that the elderly does daily activities so far as a form of physical activity. Besides sports (morning walks, jogging, and gymnastics), gardening, room picket,

mopping, gardening, sweeping the yard, and cleaning the bathroom are forms of physical activity. The staff thought that the activity was enough to expend a lot of energy.

For the elderly who experience physical weakness, the staff tries to convince them that sitting in a chair by moving their hands and limbs is still healthy is enough. This activity can be performed while lying down, the important thing is to keep exercising regularly.

The causes of respondents not wanting to do physical activities include personal problems regarding family, laziness, problems with friends, being old, tiredness, feeling that they have cleaned their room so they do not need exercise, and physical health. According to the staff, the life background of the elderly before living in a nursing home affects their healthy behavior while living in the nursing home. For example, the elderly when they were young liked to do sports, even though they lived in a nursing home, the elderly continued to carry out these habits and hobbies to a certain extent according to the strength of the body. Efforts made by officers in overcoming these obstacles are to provide motivation, whereas rewards and punishments are less effective in their impact. This can be seen in the attendance rate of gymnastics carried out twice a week in the same people. Additionally, the efforts of the officers were to hold pickets at each room to maintain the cleanliness of their respective homestead. Additionally, with the picket, the elderly can move physically. If there is a picket on that day but suffers from an illness, then the picket is replaced by another friend.

Nursing home management provides adequate facilities and infrastructure so that the elderly can carry out physical activities, such as treadmills and stationary bicycles. Nevertheless, the utilization is not optimal, because there is no special trainer to guide the elderly. The staff considers that the variety of physical activities implemented now is sufficient.

## ***Discussion***

According to (Chogahara, 1999), (Wilcox et al., 2003), and (Orsega-Smith et al., 2007), social support is the main predictor affecting physical activity levels of the elderly in a nursing home. The qualitative data collected show that the elderly, especially their leaders, always encourage them to take part in gymnastics. This proves that friends greatly affect elderly individuals in carrying out physical activities. Most of the elderly or 52.24% have friends, and only 4.48% have no friends.

Stress factors due to friendship can also affect the health of the elderly. The study proves that psychological factors such as depression and arguments with fellow elderly living in nursing homes increase the risk of influenza-like symptoms (Gidron et al., 2005).

Additionally, the statement above proves that the effectiveness of social support is also influenced by the friend who gives it. Besides social support from friends, social support from nursing home staff is an important factor. The quantitative data proved that 50.75% of respondents had a good relationship with nursing home staff. This is also evident from the following statement:

“Nice. My body is always in good condition when I used to walk in the morning with Mrs. Umi, I always went, but after Mrs. Umi got pregnant I was never again” (Passage 1 of 2 Section 0, Paras 37 to 44, 912 chars).

The above statement is supported by the policy and attention given by nursing home staff, both the health team and social workers. The following is a statement from health officials:

“Oh yes, we call a special gymnastics instructor, and the training is very low impact, so it is suitable for them.” (Passage 2 of 2 Section 1.9, Paras 32 to 33, 164 chars).

“I don’t think there are environmental factors, because the facilities already exist, they just haven’t been used yet.” (Passage 3 of 3 Section 1.14, Paras 42 to 43, 272 chars).

“Yes, we still give motivation, we still invite, we encourage, so it’s like we force it to happen, if not, they don’t want to move, in the room they keep doing that, but there’s also a reason, ‘I’ve been walking, so I don’t have to exercise.’ Yes, sometimes we tolerate it. Some people don’t want to at all, so that’s what sometimes we force it a bit.” (Passage 1 of 1 Section 1.8, Paras 29 to 30, 458 chars).

The following is a statement from social workers:

“First, we motivate information in the form of social groups or individual allies. After that we give it in the form of social guidance, in the form of activities related to when we do information about religious activities too, there is communication or relations or information to motivate the client.” (Passage 1 of 1 Section 1.4, Para 23, 416 chars).

“We often give motivation in the form of words. At least move a little to be healthy, which is by physical abilities. No running or strenuous activity” (Passage 3 of 4 Section 1.34, Paras 80 to 81, 362 chars).

The following is a statement by the nursing home staff occupying the pavilion in the nursing home:

“Yes, in nursing homes, there are rewards, even if it’s just bread or biscuits. I said ‘let’s go, let’s exercise, let’s exercise, come on, come on.’ But that’s it, that’s all that comes. My husband and I live in Wisma C. They have various physical activities, some are mopping, cleaning the bathroom, gardening. I always take them with me. ‘Come on, don’t you want to do morning exercise,’ but they said ‘I’m tired, I’m already mopping, here you see me sweating.’ I can’t force them either. I also see them working like that every day, the important thing is that I motivate them every day.” (Passage 1 of 2 Section 1.9, Paras 36 to 37, 731 chars).

The above statement proves that the frequency and form of support do not necessarily have a strong enough impact on the physical activity level of the elderly. Taylor (2006) stated that family support is the main thing. Similarly, the elderly live in nursing homes. Although they are separated from their families, family support is still necessary, given that the elderly are still dependent on the family, especially children, amounting to 4.48% (as financial support) and the frequency of visits by children to the elderly was 26.87%. Interviews from staff support that the family still has a significant influence on the lives of the elderly although they live separately from the family. Here are the results of the interview:

“...especially if there are family problems, they don’t want to go anywhere anymore, stay in the room and feel depressed” (Passage 2 of 2 Section 1.13, Paras 44 to 45, 638 chars).

“Oh yes, the worst is Mr. Aceng. His son rarely comes, even though Mr. Aceng wants to hold money (pause for a moment)” (Passage 1 of 1 Section 1.39, Paras 91 to 92, 196 chars).

“...There are also those who are depressed, because of personal problems with his family.” (Passage 3 of 3 Section 1.12, Paras 42 to 43, 486 chars).

The elderly thought of friendships from an emotional and personal perspective, with the quality of friendship being more important than the frequency of their interactions with friends (emotional support). Previous studies by Perlman, Gerson, and Spinner (Atwater, 1983) proved that friends play a more important role than family relationships in terms of preventing feelings of loneliness among the elderly.

The statistical analysis assessed that the number of samples was relatively small, so the calculation results were not significant to agree (H0). Another software called SAS 9.1 was used to

reanalyze whether self-efficacy is a mediator for social support. It turns out that a p-value of 0.6635 at a 10% significance level still does not prove that self-efficacy is a mediator on the relationship between social support and physical activity levels.

Unfortunately, the quantitative data were not supported by several statements from the elderly stating that they are in control to get rid of laziness. In other words, the strong will of the elderly for physical activity comes from themselves, and that is the main thing. The following are the statements of the elderly:

74: A: I'm on my own, sometimes I don't get a call, I hang out first, I go to the kitchen first.

75: M: When I was on a bicycle, I used it again, and then someone said that I was riding a bicycle, how come it didn't arrive... so I just kept going. No one asked, all from myself.

76: S: I'm on my own

77: N: Myself.

78: K: I'm on my own. There are roommates, the three of us, me, Mrs. Mardiyah, and Ms. Ragil, who will be left behind will be called, so it's always the three of us. (Passage 3 of 3 Section 1.1.1.1.21, Paras 73 to 78, 740 chars).

"Well, I have the initiative, we are old, why are we still being asked to do the dirty thing we must have the initiative, then I clean it every day." (Passage 1 of 6 Section 1.2, Para 10, 165 chars).<sup>3</sup>

"I feel lazy sometimes when I'm sick. At most, if I have a headache, I will massage myself." (Passage 4 of Section 1.23, Paras 60 to 61, 237 chars).

The physical health status of the elderly should be a factor causing them to be reluctant or maybe even lazy to do physical activity. The logic of thinking directs researchers that the elderly with good social support, let alone having a high level of self-efficacy, should have a high level of physical activity as well. But what if an elderly person has both of these things but experiences obstacles or physical disturbances in the form of immobilization? Surely, this affects the physical activity level.

This is evidenced by logistic regression statistical analysis, with a 10% p-value, with a significance level of 0.030, so that physical health status is a mediator for the elderly to do physical activity. Other evidence is in the form of qualitative data, using FGD techniques on respondents, as follows:

"It hurts like cramps, I'm lazy" (Passage 3 of 5 Section 1.6, Para 28, 56 chars).

"If I don't move, it's usually because I'm dizzy, so I'm a bit lazy. It seems a bit lousy, I often t dizzy because of it" (Passage 5 of 7 Section 1.1.1.1.13, Para 48, 131 chars).

"I don't, because my knee hurts" (Passage 3 of 3 Section 1.1.1.1.37, Paras 103 to 104, 107 chars).

The results of in-depth interviews supporting the above data are from nurses as follows:

"The average disease suffered by the elderly is rheumatism. That can make them reluctant. Even though we tell them that the movement doesn't have to be like aerobic exercise, not like SKJ, for example sitting is okay, the important thing is to watch the exercise, then move the hands." (Passage 1 of 14 Section 1.12, Para 36, 319 chars).

Various studies observing the physical activity of the elderly noted that there was a significant relationship between chronic disease conditions of the elderly (arthritis, hypertension, diabetes, and heart

disease) and functional disability or physical appearance. A study on the Mexican–American elderly reported that pain in the joints of the body significantly increased the incidence of physical disorders so that it interferes with daily body activities (Bryant et al., 2007). For the elderly experiencing knee osteoarthritis, self-efficacy even becomes a full mediator for walking (Maly et al., 2007).

The results of the FGD analysis on four groups of elderly women and men showed that they did not know some basic things regarding physical activity itself. The first is about the definition of physical activity. All participants answered that what is called physical activity is a daily activity from morning to night. Only women group two have pointed out that physical activity is more of an energy-consuming activity such as gymnastics. Additionally, they do not know the benefits of physical activity, especially for improving physical health status. In women group one, with an elementary school education background, it is very clear that they are not yet fully aware of the benefits of physical activity for health. Participants in group one view that physical activity can be postponed or if necessary it is postponed if other activities are considered more important. Women group two was a junior high school and senior high school education background. It seems that in participating in this focused discussion, they were enthusiastic, trying to express their opinion, and were happy.

A group of four men, having a high school senior education background, are all not active in gymnastics because they carry out picket, prefer religious activities, do light activities such as watering flowers, and pursue their hobbies to make money. Unlike a group of three men, they don't want to do physical activities because they don't like it from within (because it causes dizziness) and they don't want to participate in activities that expend a lot of energy.

The facts revealed from the results of interviews with psychologists are as follows:

“Yes. Like those who used to work when they were young, they spend their old age here, wanting to rest, not wanting to be tired anymore. Some of them from a young age are used to suffering, so here they are still active, then there are those from somewhat bourgeois families who are usually there, here they must be spoiled, they don't want activities that are a bit rough.” (Passage 1 of 1 Section 1.16, Paras 50 to 51, 511 chars).

“Friend factor. As in women's nursing homes, there is a dominant factor that can influence their friends to join gymnastics. So the dominant one is usually appointed as the leader. But these male patients tend to want to be alone, not together. Somehow. Maybe because of prestige too, but it could also be competition between them. Personality too, like Mr. Dedi, he is a closed person, especially if there are family problems, he doesn't want to go anywhere anymore, he stays in the room, he's moody.” (Passage 2 of 2 Section 1.13, Paras 44 to 45, 638 chars).

“Oh yes, a lot too. They even prefer to sit around, fill out crossword puzzles while smoking, then there is also playing chess. Well, there are various, but usually the lazy ones are gentlemen.” (Passage 1 of 1 Section 1.11, Paras 36 to 37, 248 chars).

M.J.G et al. (2006) found that the elderly who live with their spouses are more likely to attend physical activity exercises in their environment when compared with the elderly who live alone.

Mullen et al. (2012) saw the relationship between physical activity and self-efficacy that affects the level of self-esteem of the elderly. They found that regular physical activity will make the body healthier and less sick. This causes the physical self-esteem of the elderly to increase in their daily lives.

NE et al. (2006) found that the intervention group had better physical mobility than the control group who did not receive the intervention first. Good physical mobility causes the self-efficacy of the elderly to increase.

Life in a nursing home shows the physical activity patterns of the elderly are different. Although there are facilities, infrastructure, and equal treatment from caregivers, individual factors and background of life before entering the nursing home affect physical activity while staying in the nursing home.

Uniform treatment in nursing homes makes the possibility of collective self-efficacy in the elderly living in the nursing home. Ballesteros et al. (2002) discussed that collective self-efficacy will be formed after the elderly live in the same area, always do activities together, and do hobbies together. The principle of collective self-efficacy is that the most dominant individual is no longer visible and is replaced with a feeling of sharing the same fate. Nevertheless, the results of this study show that self-efficacy is not proven to be related to the physical activity level of the elderly. This may be due to the absence of the most dominant individual who can influence the group, other than the background of the elderly's life before living in a nursing home.

This study illustrates that social support, especially from the closest person (intimacy factor) with the elderly, has a major influence on their physical activity.

Various techniques are used by caregivers to provide care and health services to the elderly so that they can maintain good physical activity. Taylor (2006) cited the opinion of Abel, Rouleau, and Coyne (1987) and Thoresen and Mahoney (1974) that self-monitoring is the first step in behavior change efforts. This method is used to assess the frequency of the target behavior and its increase, as well as the consequences of the change itself. This technique must be combined with other techniques (such as social skills training or assertiveness training) so that lasting behavior change can occur.

## **Conclusion**

The results show that self-efficacy had no significant influence on physical activity level when using quantitative calculations. Searching for information using this qualitative technique on self-efficacy has different results from quantitative calculations. The results show that they can perform daily activities as well as routine physical activities well because there is a fairly high self-efficacy in the elderly.

Theoretical suggestions for future studies are that not only the physical activity level of respondents can be measured using the self-efficacy and social support assessment format but also the level of stress or depression they experience. One practical suggestion is that further studies must create a self-monitoring program. Self-monitoring is useful to increase the self-efficacy of the elderly. The implementation of self-monitoring pays attention to things such as 1) time efficiency, 2) family support, 3) involvement of the client, and 4) the right message to the right person.

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