

Relationship Between Daily Living Activity Level With Sleep Quality In The Elderly Elderly Social Services UPT, Binjai Social Services North Sumatera In 2021

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ARTICLE INFO

ABSTRACT

Keywords:

Activity Daily Living, sleep quality, elderly

Activity Daily Living is an activity carried out in the daily life of the elderly, starting from getting up in the morning until going to bed at night. Activity Daily Living is one way that can be done to improve the quality of sleep in the elderly. Sleep quality is a condition in which an individual's sleep results in fitness, freshness and satisfaction with his sleep when he wakes up. This study aims to determine whether there is a relationship between Level Daily Living Activity with Sleep Quality in the Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatera. The type of research design used is correlation with analytical descriptive research design with purposive sampling method sampling as many as 50 respondents. The instruments used in data collection were the Katz Index and PSQI questionnaire sheets. Data analysis using test Spearman rank. The results of the study obtained a significant level of both variables p-value 0.001 (<0.005). This shows that there is a relationship between daily living activities and sleep quality in the elderly at the UPT Social Services for the Elderly, Binjai Social Service, North Sumatera in 2021. It is hoped that respondents can further improve daily living activities so that the quality of sleep for the elderly is better at the UPT Social Services for the Elderly, Binjai Social Service North Sumatera.

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1. INTRODUCTION

Old age according to the World Health Organization (WHO) is a person aged 60 years or more, which is classified into four namely middle age aged 45-59 years, elderly aged 60-74 years, old aged 70-90 years and very old aged more than 90 years old. Old age is a period that shows a decline in line with the passage of time. The number of elderly population has increased along with the high life expectancy. The analysis of the elderly in Indonesia according to the Indonesian Ministry of Health in 2017 predicts that the percentage of the elderly population will increase (Dewi, et al 2020).

According to WHO (World Health Organizing), Indonesia as a developing country also experienced an increase in the elderly population from 4.48% (5.3 million people) in 1971 to 9.77% (23.9 million people) in 2010. Even in 2020 it is predicted that there will be an explosion in the number of elderly people by 11.34% or around 28.8 million people. WHO has calculated that in 2025, Indonesia will experience a number of elderly people of 41.4%, which is the highest increase in the

world.(Marlita, Saputra, and Yamin 2018)The world's elderly population is expected to increase by 223% or by 694 million people between 1970–2025(Judge 2020).

The effect of this increasing elderly population will be very visible in economic and social terms, where as we know today the incidence of chronic, degenerative diseases, as well as various types of cancer is increasing, as well as the increasing number of deaths due to these diseases. Disability due to degenerative diseases will not be avoided, thereby reducing the productivity of the elderly. This decline in productivity of the elderly group occurs due to a decrease in function, so that it will cause the elderly group to experience a decrease in carrying out daily activities such as eating, going to the bathroom, dressing, and others in the Daily Living Activity. The elderly are felt more and more similar to children, in dependence on meeting their basic needs, this is what causes the elderly to be sent to orphanages(Rohaedi, et all. 2016).

The influence of the aging process can lead to various health status problems. Diseases or common complaints that can be felt by the elderly are hypertension, rheumatism, respiratory diseases and sleep disorders. These problems can cause the elderly to become fragile so that it can affect the Activity Daily Living and it is difficult to perform independently and become dependent on others. Activity Daily Living is an activity carried out in the daily life of the elderly, starting from getting up in the morning until going to bed at night. In Activity Daily Living, the elderly need strength to be able to move. Activities or activities generally involve the mobility of the functions of the body in activities, such as waking up, moving, going to the bathroom, eating,(Rosdianti, 2018).

Health problems that are often encountered in the elderly are sleep disorders. Older people need a longer time to start sleeping but have a shorter time to sleep well. Every year it is reported that around 20-50% of adults experience sleep disorders and about 17% have serious sleep disorders, while in the elderly the prevalence of sleep disorders is quite high, around 67%. Sleep quality is a condition where a person's sleep can provide fitness, freshness and satisfaction when awakened. Adequate sleep is influenced by the number of hours of sleep (quantity) and depth of sleep (quality). Factors that affect sleep quality in the elderly include age, depression, illness, drug use, lifestyle, environment and physical activity. Maintenance of sleep quality is an important aspect of improving the health of the elderly to ensure the restoration of body functions to a functional level so that they can carry out activities properly(Dewi, et al. 2020).

Activity is one way that can be done to improve sleep quality in the elderly. Activity is all movement as a result of skeletal muscle contraction that requires energy. Physical activity consists of free movement, structured activities, sports activities and daily activities. Old age with less and unstructured activities will affect the reduction of sleep time or sleep quality. Activity causes an increase in energy consumption, endorphin secretion and body temperature which can increase the need for sleep and the body's healing process. The more energy consumed, the greater the possibility of restoration. Older people who are active in activities are expected to increase the need for sleep to restore and repair the body and balance the energy consumed.(Dewi, et al. 2020).

Daily activities or Activity Daily Living and rest both go hand in hand, therefore if an activity is disturbed it will affect the rest period so that it will cause sleep disturbances and will affect the reduction of sleep time and sleep quality in the elderly. The need for adequate sleep is determined in addition to the number of hours of sleep (sleep quantity), also by the depth of sleep (sleep quality). Several factors affect the quantity and quality of sleep, namely, physiological factors, psychological factors, environment and lifestyle. From physiological factors it has an impact on decreasing daily activities, feeling weak, tired, and decreasing endurance, while psychological factors have an impact on depression, anxiety, and difficulty concentrating. Sleep quality includes quantitative aspects such as time to sleep, sleep duration and sleep efficiency. Good sleep quality depends on the quality of sleep in the elderly to live a healthy and happy life(Rosdianti 2018).

Adequate sleep is influenced by the number of hours of sleep (quantity) and depth of sleep (quality). Factors that affect sleep quality in the elderly include age, depression, illness, drug use, lifestyle, environment and activity. Maintenance of sleep quality is an important aspect of improving the health of the elderly to ensure the restoration of body functions to a functional level so that they can carry out activities properly(Dewi, et al 2020). Activity Daily Living and rest both go hand in

hand, therefore if activity is disturbed it will affect the rest period and will cause sleep disturbances and affect sleep quality. in the elderly.

2. METHOD

This research is a correlation research with analytical descriptive design, which is a way to describe a relationship between phenomena at the same time or at one time. Binjai North Sumatra in 2021. The population in this study is the elderly who live in the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra. The sample studied by the author is as many as 50 respondents adjusted to the inclusion criteria set by the researcher.

The instrument used in this study aims to describe the Activity Daily Living in the elderly. In this study, data collection was carried out using a questionnaire sheet on the level of independence using the Katz index. This questionnaire consisted of 6 questions, namely bathing, dressing, toileting, moving, continence, eating. The 6 questions in the Katz index questionnaire are given a score of 0 if dependent and a score of 1 if independent. The PSQI questionnaire has been standardized by the University of Pittsburg (Buysse et al. in Smyth, 2012). This questionnaire consists of 19 questions where items 1-4 are open-ended questions about individual sleep and waking habits, total sleep time, and sleep latency (minutes of sleep).). Items 5-18 use a Likert scale, namely 0 = not during the past month, 1 = less than once a week, 2 = once or twice a week, 3 = three or more times a week. The additional items rated by the roommates were used for clinical information only and were not tabulated in the assessment of this instrument. With total interpretation, if the value 5 = good sleep quality and if the value > 5 = poor sleep quality

3. RESULTS AND DISCUSSION

Respondents in this study were the elderly in the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra as many as 50 people.

Activity Daily Living Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021

Table 1. Frequency and Percentage Distribution *Activity Daily Living Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021*

No.	Activity Daily living	Frequency (f)	Percentage (%)
1.	Independent	25	50
2.	Depends	25	50
Total		50	100

Based on table 1. the distribution of the frequency and percentage of Elderly Daily Living Activities at the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra in 2021, 25 people (50%) are independent and 25 people are dependent (50%).

Sleep Quality for the Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021

Respondents in this study were the elderly in the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra as many as 50 people.

Table 2. Frequency and Percentage Distribution *Sleep Quality for the Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021*

No.	Sleep Quality	Frequency (f)	Percentage (%)
1.	OK	12	24
2.	Bad	38	76
Total		50	100

Based on table 2. the distribution of the frequency and percentage of sleep quality for the elderly at the UPT Social Services for the elderly, Binjai Social Service, North Sumatra in 2021, the

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majority were bad as many as 38 people (76%), and the minority was good as many as 12 people (24%).

The Relationship between Daily Living Activity Levels and Sleep Quality for the Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021

Respondents in this study were the elderly in the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra as many as 50 people.

Table 3. Results of Level Relationships *Activity Daily Living* with Sleep Quality for the Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021

<i>Activity Daily Living</i>	Sleep Quality				Total	<i>p – value</i>	
	Well		Not enough				
	F	%	F	%	F	%	
Independent	24	48.0	1	2.0	25	50.0	0.001
Depends	14	28.0	11	22.0	25	50.0	

Based on table 3. the relationship between daily living activities and sleep quality in the elderly at the UPT Social Services for the elderly, Binjai Social Service, North Sumatra in 2021, it was found that there were 24 of 25 (50.0%) independent elderly daily living activities with good sleep quality and there were as many as 11 of 25 (50.0%) elderly daily living activities depend on poor sleep quality.

Based on the results of the Spearman rank correlation test between the relationship between daily living activities and sleep quality in the elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021. The significant level of the two variables *p-value* is 0.001 ($p < 0.05$), which means H_0 is accepted. or there is a relationship between daily living activities and sleep quality in the elderly at the UPT Social Services for the Elderly, Binjai Social Service, North Sumatra. Then the level of correlation that can be seen from the table is the level of moderate relationship with a value of $r = 0.468$ The level of correlation in this study is a moderate level of relationship with a value of $r = .0.468$. Which means that the higher the level of daily living activity, the better the sleep quality of the elderly.

Activity Level for Elderly Daily Living at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021

Based on the results of research conducted by researchers at the UPT Social Services for the Elderly, Binjai Social Service, North Sumatra, through a questionnaire obtained from 50 respondents, it was found that the Activity Daily Living of the elderly who were independent was 25 people (50%), and 25 people depended (50%).

From the results of the study, it was found that the Activity Daily Living for the elderly at the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra was said to be independent. Living independently where activities or activities are carried out on a daily basis to take care of themselves without help or dependence on other people or tools. Elderly people who can do Activity Daily Living independently due to physical conditions that still allow them to be able to carry out daily activities day.

Independence in carrying out daily activities is self-care, such as bathing, dressing, toileting, changing places, maintaining continence, and eating. Meanwhile, the level of Activity Daily Living is the elderly who are dependent on the UPT Social Services for the Elderly, Binjai Social Service, North Sumatra, due to their condition. physical, age and disease that result in not being able to carry out their daily activities normally, so that the elderly cannot carry out activities independently. This causes the elderly to feel dependent on others.

The results of this study are in line with research conducted by Fatmasari (2017) Daily activities in English are usually called ADL (activity daily living) which are the main activities in self-care. ADL includes: going to the toilet, eating, dressing (dressing up), bathing, and changing places.

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Sleep Quality for the Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021

Based on the results of research conducted by researchers at the UPT Social Services for the Elderly, Binjai Social Service, North Sumatra, through a questionnaire obtained from 50 respondents, it was found that the sleep quality of the elderly was mostly bad as many as 38 people (76%), and the minority was good as many as 12 people (24%). From the results of the study, it was found that the sleep quality of the elderly at the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra was said to be bad.

The author assumes that poor sleep quality is still high in the elderly at the UPT Social Services for the Elderly, Binjai Social Service, North Sumatra. The high quality of poor sleep that occurs in the elderly at the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra in 2021 is due to lack of activity during the day so that time during the day is mostly used for rest and sleep and the average sleep disturbance is at night. caused by complaints such as feeling pain in the legs, feeling hot and cold at night, and waking up to go to the bathroom.

The results of this study are in line with research conducted by Fitria et al, (2020) who stated that poor sleep quality was caused by having complaints of leg or calf pain and often waking up to go to the bathroom at night so that the quality of sleep interfered with sleep. This is due to the age at which the aging process makes it easier for the elderly to experience sleep disorders in addition to causing normal changes in the elderly's sleep and rest patterns. In addition to age, sleep quality is also influenced by anxiety experienced by the elderly.

The Relationship between Daily Living Activity Levels and Sleep Quality in the Elderly at UPT Social Services for the Elderly, Binjai Social Service, North Sumatra in 2021

Based on the results of statistical tests using the Spearman rank correlation test about the relationship between daily living activities and sleep quality in the elderly at the Senior Social Service Unit at the Binjai Social Service, North Sumatra in 2021, a p-value of 0.001 (<0.005) was obtained. The level of correlation in this study is a moderate relationship with a value of $r = .468$, which means H_0 is accepted or there is a relationship between daily living activity and sleep quality in the elderly at the UPT Social Services for the Elderly, Binjai Social Service, North Sumatra.

Activities carried out regularly will have a positive impact on health because it can make metabolism good, blood circulation smooth so that sleep can be more calm and comfortable. The author assumes that the higher the level of Activity Daily Living in the elderly, the better the sleep quality. In this study, there were also elderly who had a dependent level of Activity Daily Living (ADL) but had good sleep quality and there were also elderly who had independent ADL levels but had poor sleep quality. This condition is caused by other factors related to the quality of sleep in the elderly in addition to the level of ADL in the elderly. The level of Activity Daily Living for the elderly at the UPT Social Services for the Elderly, Binjai Social Service, North Sumatra, is more dependent on the shifting department due to age and other factors. physical activity that interferes with their activities.

In line with research conducted by Kamila (2017), assisted and independent activity of daily living (ADL) tends to be more than elderly with dependent activity of daily living (ADL). The physical activity he experienced caused his body's fitness level to be better, so that the ability to sleep and rest well increased.

4. CONCLUSION

Daily Living Activity Level Elderly in the UPT Social Services for the Elderly of the Binjai Social Service, North Sumatra in 2021, 25 people (50%) are independent, and 25 people (50%) are dependent on sleep quality for the elderly at the UPT for Elderly Social Services at the Binjai Social Service, North Sumatra, in the majority were bad as many as 38 people (76%), and a good minority as many as 12 people (24%). Spearman rank correlation of the two variables p-value 0.001 (<0.05).

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5. REFERENCES

- [1] Aspiani Y.2014. *Buku Ajar Asuhan Keperawatan Gerontik*. Jakarta : Trans Info Media
- [2] Creswell, John W. 2009. "Research Design. Qualitative, Quantitative, and Mixed Methods Approaches (3rd Ed)." *Proceedings of the Annual Conference of the International Speech Communication Association, Interspeech*.
- [3] Dewi, Dkk. 2020. "Hubungan Aktivitas Fisik Dengan Kualitas Tidur Pada Usia Lanjut di Desa Sumerta Kelod." 8:57–62.
- [4] Ekasari MF.2018. Meningkatkan Kualitas Hidup Lansia Konsep dan Berbagai Strategi Intervensi. Jakarta :Wineka Media
- [5] Ernawati, Dkk. 2017. "Gambaran Kualitas Tidur dan Gangguan Tidur Pada Lansia di Panti Sosial Tresna Werdha Budi Luhur Kota Jambi."
- [6] Hakim, Lukman Nul. 2020. "Urgensi Revisi Undang-Undang Tentang Kesejahteraan Lanjut Usia The Urgency of The Elderly Welfare Law Revision." 11(1):43–55. doi: 10.22212/aspirasi.v11i1.1589.
- [7] Kholifah, siti Nur. 2018. "Keperawatan Gerontik." *Journal of Materials Processing Technology* 1(1):1–8.
- [8] Marlita, Lora, Roni Saputra, and Moh. Yamin. 2018."Faktor- Faktor Yang Mempengaruhi Tingkat Kemandirian Lansia Dalam Melakukan *Activity Daily Living* (ADL) Di UPT PSTW Khusnul Khotimah." *Jurnal Keperawatan Abdurrah* 1(2):64–68.
- [9] Mashudi,2020." Hubungan Kualitas Tidur dan Tingkat Kemandirian Activity of Daily Living dengan Risiko Jatuh Pada Lanjut Usia di Puskesmas Simpang IV Sipin Kota Jambi." *Jurnal Ilmiah Universitas Batanghari Jambi*, 20(1), Februari 2020, pp.237-242
- [10] Notoatmodjo, S. (2012). *Metodologi Penelitian Kesehatan*. Jakarta : Rineka Cipta.
- [11] Nursalam. (2020). *Metodologi Penelitian Ilmu Keperawatan* (P. P. Lestari (ed.); 4th ed., p. 49). Salemba Medika.
- [12] Padila, 2013. *Buku Ajar Keperawatan Gerontik*. Yogyakarta. Nuha Medika
- [13] Polit & Beck. 2012. *Nursing Research Principles and Methods*.
- [14] Polit, denise F., and cheryl Tatano Beck. 2017. *Nursing Research Generating and Assessing Evidence for Nursing Practice*.
- [15] Rohaedi, Slamet, Suci Tuty Putri, and Aniq Dini Karimah. 2016. "Tingkat Kemandirian Lansia Dalam Activities Daily." 2(1).
- [16] Rosdianti, Dkk. 2018. "Hubungan *Activity of Daily Living* (ADL) Dengan Kualitas Tidur Pada Lansia di DI PSTW Khusnul Khotimah Pekanbaru". 5(2).
- [17] Santoso. 2019. "Hubungan Tingkat *Activity Daily Living* (ADL) Dengan Kualitas Tidur Pada Lansia di UPT Pelayanan Sosial Lanjut Usia Kabupaten Jember.."
- [18] Susan Susyanti,Dais Lukman Nurhakim. 2019. "Karakteristik Dan Tingkat Kemandirian Lansia Dipanti Sosial Rehabilitasi Lanjut Usia (RSLU) Pemerintah Provinsi Jawa Barat." *Jurnal Medica Cendikia* 6(1):21–32.