

## Gambaran Umum Fungsi Kognitif pada Lansia di Senior Residen Karya Kasih Kota Medan Tahun 2024

### *Overview of Cognitive Function in the Elderly at Karya Kasih Resident Senior Medan City 2024*

<sup>1</sup>Mardiati Barus, <sup>1</sup>Friska Sri Handayani Ginting, <sup>1</sup>Risda Siregar

#### ABSTRAK

**Pendahuluan** Fungsi kognitif merupakan sebagai proses mental yang digunakan untuk memperoleh pengetahuan atau kemampuan, termasuk berpikir, mengingat, memahami, merencanakan, dan melaksanakan. Tujuan penelitian ini untuk mengetahui gambaran fungsi kognitif pada lansia di graha residen senior karya kasih kota medan. **Metode Penelitian** ini merupakan penelitian deskriptif dengan pendekatan cross sectional. Populasi dalam penelitian ini adalah seluruh lansia yang graha residen senior karya kasi kota medan yang berjumlah 70 lansia dengan sampel 41 lansia dengan menggunakan teknik purposive sampling. Instrumen yang digunakan dalam penelitian ini adalah kuesioner MMSE yang sudah baku dari buku folstein & McHugh yang diadopsi pelnelliti dari jurnal pelnellitian Dian Elka Putri (2021). Analisa data yang digunakan dalam penelitian ini adalah univariat. **Hasil penelitian** menunjukkan bahwa fungsi kognitif pada lansia di graha residen senior karya kasih kota medan pada kategori demensia 34 orang (82,9%). **Kesimpulan** bahwa secara umum lansia dengan demensia lebih banyak dibandingkan dengan lansia yang mengalami fungsi kognitif normal. Diharapkan bagi graha residen senior karya kasih kota medan dapat memberikan kegiatan untuk meningkatkan fungsi kognitif pada lansia.

#### ABSTRACT

**Introduction** Cognitive function is a mental process used to acquire knowledge or abilities, including thinking, remembering, understanding, planning, and executing. The purpose of this study is to find out the description of cognitive function in the elderly in the senior resident of Karya Kasih Kota Medan. **Methods** This research is a descriptive research with a cross sectional approach. The population in this study is all elderly who are senior residents of the Medan City Head of Medan which totals 70 elderly with a sample of 41 elderly using purposive sampling techniques. The instrument used in this study is a standard MMSE questionnaire from the book Folstein & McHugh which was adopted by pelnelliti from the pelnellitian journal Dian Elka Putri (2021). The data analysis used in this study is univariate. **Results** the study showed that cognitive function in the elderly in the senior resident of Karya Kasih Kota Medan was in the dementia category of 34 people (82.9%). **Conclusion** is that in general, the elderly with dementia are more common than the elderly who experience normal cognitive function. It is hoped that the senior resident of Karya Kasih Kota Medan can provide activities to improve cognitive function in the elderly.

<sup>1</sup> STIKes Santa Elisabeth Medan

Korespondensi e-mail:  
[siregarrisda288@gmail.com](mailto:siregarrisda288@gmail.com)

Submitted: 24-01-2025

Revised: 18-02-2025

Accepted: 20-02-2025

**How to Cite:** Barus, M., Ginting, F. S. H., & Risda Siregar. (2025). Overview of Cognitive Function in the Elderly at Karya Kasih Resident Senior Medan City 2024. Jurnal Midwifery, 7(1).  
<https://doi.org/10.24252/jmw.v7i1.54874>

#### Kata Kunci:

*Gambaran; Fungsi Kognitif; Lansia*

#### Keywords:

*Overview; Cognitive Function; Elderly*

## INTRODUCTION

Elderly is a stage of normal development that everyone goes through before reaching old age, and is a group of people who are experiencing a process of change accompanied by a decrease in life ability and a decrease in individual independence (Mardiana & Sugiharto, 2020). The number of elderly people in Indonesia is around 27.1 million people, which is almost 10% of the total population, and is expected to reach 33.7 million people (11.8 percent) by 2025 (Kementerian Kesehatan, 2024).

Cognitive function is a mental process in acquiring knowledge, skills and intelligence, which includes ways of thinking, remembering, understanding, planning, and executing. With the increasing proportion of the elderly population, the elderly can experience many health

problems. Degenerative diseases are the biggest health problem for the elderly, one of the disorders caused by the degenerative process in the elderly is the deterioration of cognitive function (Supriadi & Washudi, 2023).

The aging process can cause a decline in cognitive function (deterioration of conditions, physical, mental health, such as dementia, and social interactions). Elderly individuals who experience cognitive decline affect their daily activities and dependence on others or people around them. (Care et al., 2020). Decline in cognitive function can lead to an increase in the severity of cognitive as well as psychological impairment in older people which can increase, which can give rise to experiences similar to dementia (Djajasaputra & Halim, 2019).

Other impacts of declining cognitive function in the elderly can be in the form of disturbances and weaknesses in movement and thinking, as well as disturbances in verbal communication that cause interaction problems (Situngkir et al., 2022). Declining cognitive function certainly has a unique effect on the life of parents. Decreased cognitive function in the elderly is related to increased depression and has a unique effect on the life of the elderly, impacting the quality of life. In addition, the elderly will also experience loss with the people around them, as well as with their families. (Irfan Permana et al., 2019).

One way to grow cognitive function is through brain stimulation interventions, namely with brain exercises. Brain exercises are a series of simple movements that can balance all parts of the brain, improve concentration, and help the inhibited part of the brain work better (Nurhidayati, 2020). Deterioration of cognitive function can also be overcome through preventive measures. One of the preventive efforts that can be done by the elderly is to increase physical activity. Physical activity can stimulate nerve growth so that it can slow down the decline in cognitive function in the elderly (Supriadi & Washudi, 2023).

Based on an initial survey conducted by researchers at Graha Senior Resident Karya Kasih Medan City, there are 70 elderly people. Researchers have conducted unstructured interviews with 6 elderly people, and found that 5 elderly people seem to have forgotten, do not know and the answer is wrong when asked about the day, date, month, year has seemed unfocused and their ability to catch has weakened. Based on the above background, the researcher is interested in conducting research on "Overview of Cognitive Function in the Elderly at Graha Residen Senior Karya Kasih Kota Medan in 2024."

## METHODS

The type of design used in this study is descriptive. This descriptive research aims to describe (explain) the most important events that are happening to find out the overview of Cognitive Function in the Elderly at Graha Relside In Selnior Karya Kasih Kota Medan in 2024, by examining the cognitive function of the elderly. The population studied was all elderly people totaling 70 people at Graha Senior Resident Karya Kasih Medan City in 2024.

The sample sampling method used by research for a long time is *purposivel sampling*. *Purposivel sampling* is a technique to collect samples where samples are taken from the population of the individual population with the desire of the researcher (Nursalam, 2020). Calculate the sample size using the Vincent formula. 
$$n = \frac{N \times Z^2 \times P (1-P)}{N \times g^2 + Z \times p (1-P)} N = 40.47$$
 rounded up to 41 people. The inclusion criteria are cooperative elderly. The elderly include those aged

60 years and above. And the exclusion criteria are the elderly who are suffering from severe depression and the elderly who resign as respondents due to illness.

The variable in this research is the cognitive function of the elderly. Instrument age, gender. The *Mini Mental Statel Examination (MMSEI)* query from the journal Pelnellitian Dian Elka (2021). This query is based on 11 random questions, remembering the language, language, language and calculation of the experience with the choice of the answer belnar = 1, false = 0. The results of the cognitive function questionnaire will be grouped into 2 categories. Formula:  $P = P = 15 \cdot \frac{\text{Nilai Tertinggi} - \text{Nilai Terendah}}{\text{Banyak Kelas}}$  This research was conducted on April 26 – May 07, 2024.

Primal data is data collected without dellay from subjects with interviews on the cognitive function of the elderly. The data of the multiplication in the pel. This instrument will not be tested for validity and reliability in accordance with the standard MMSE questionnaire from the Folstein & McHugh book adopted by the This pelnellitian has been tested by the eltic commission of the Santa Ellisabelth Meldan College of Health Sciences with No: 059/KEPK-SE/PE-DT/III/2024.

## RESULT

The respondents in this study were 41 elderly people in the senior resident area of Karya Kasih Kota Medan in 2024.

### 1. Elderly Demographic Data

**Table 1** Distribution of Frequency of Elderly Demographic Data by Age and Gender at Graha Senior Resident Karya Kasih Kota Medan in 2024.

Characteristic	Frequency	Percentage (%)
<b>Age</b>		
60-74	18	43,9%
75-90	22	53,7%
>90	1	2,4%
<b>Total</b>	<b>41</b>	<b>100.0</b>
<b>Gender</b>		
Man	16	39%
Woman	25	61%
<b>Total</b>	<b>41</b>	<b>100.0</b>

### 2. Cognitive Function

**Table 2.** Distribution of frequency and percentage of Cognitive Function of the Elderly at Graha Senior Resident Karya Kasih Kota Medan in 2024.

Cognitive Function	Frequency	Percentage (%)
Dementia	34	82,9
Normal Cognitive Function	7	17,1
<b>Total</b>	<b>41</b>	<b>100.0</b>

## DISCUSSION

### 1. Discussion on Respondent Demographic Data (Age and Gender)

In table 1, the researcher assumes that age greatly affects the cognitive function of the elderly because due to the increasing age of the elderly, their memory will decline judging from the observation when answering questions, they sometimes forget, as well as forgetting the date, year, month and when the respondent is instructed to spell backwards the respondent cannot spell perfectly. Age is the most important risk factor for dementia disorders because the older a person gets, it can result in a decrease in physical function

In line with the research conducted by [Firdaus \(2020\)](#) in his research it is also said that there is a significant relationship between age and cognitive function in the elderly, a decline in organ function or damage to organ function due to the aging process affects cognitive function in the elderly. As we age, cognitive function will gradually decline. Likewise, research conducted by [Mardiana & Sugiharto \(2022\)](#) said that the older a person gets, there will be a decline in physical function or a degeneration process that causes a decrease in the cognitive function of the elderly.

According to the theory of [Hatmanti & Yunita, \(2019\)](#) the risk of the elderly who experience dementia is 65 years of age and older. Cognitive decline in the elderly usually begins with memory deterioration or forgetfulness-like memory. Dementia, if not treated immediately, will have a bad impact on the elderly, including changes in behavior in sufferers such as, forgetting their own behavior, being hostile to the people around them, and the elderly will be self-absorbed so that it will easily disappear because they do not remember the direction of the way home.

In table 2, the researcher assumes that gender can affect cognitive function in the elderly, stress factors can also affect the cognitive function of the elderly where cognitive function in the male elderly tends to be better than that of the female gender. Male elderly people have a good memory, and capture questions well compared to the memory of the elderly who tend to be easier to forget, this can be seen from how the elderly can answer the questions given by the researcher.

[Ratumanan et al \(2019\)](#) also said that women are more at risk of cognitive impairment when compared to men. This is because cognitive function is also affected by the work of endogenous sex hormones, namely estradiol. Women in old age will usually experience a decrease or even loss of the sex hormone estradiol. The hormone plays an important role as a neuroprotective agent that protects nerve cells. This hormone has receptors in brain regions that play a role in regulating learning and memory functions.

[Fatmawati et al \(2023\)](#) also stated that the dependence of a person's cognitive function can be influenced by excessive stress factors and hormonal factors that play a role so that women have a higher risk of cognitive decline and also stated that changes in cognitive function are more in older women than in men due to the inevitable state of menopause in the aging phase.

## 2. Overview of Cognitive Function of the Elderly at Graha Senior Resident Karya Kasih Kota Medan in 2024 with MMSE Instruments

In table 2 of 41 respondents, the results were obtained that the elderly who experienced dementia were 34 people (82.9%) while only 7 people (17.1%) had normal cognitive function. A more detailed analysis of each MMSE assessment item found that in the attention and acceleration section, as many as 38 respondents (92.7%) when spelling the word MUST upside down, the respondents could not spell it perfectly and mispronounced it when the researcher showed the designated letter.

In the language and experience section questions, as many as 39 respondents (95.1%) respondents could not repeat words without, if, and, or, still respondents seemed confused, and forgot about the repetition of words and there were several words that were not mentioned or not in order, as many as 35 respondents (85.4%) respondents could not pick up the paper with their right hand but some respondents took it with their left hand, and the respondents could not fold the paper in half and put it on the floor some respondents could not follow the instructions of the researcher, as many as 34 respondents (82.9%) when the researcher gave instructions to copy 2 circles most respondents could not copy or redraw the circles perfectly due to the physical limitations of the respondents.

According to [Ratnawati \(2021\)](#), dementia is a condition when a person experiences a decrease in memory and other thinking abilities that significantly interfere with daily activities. People with dementia in general will also feel a loss of the ability to solve a problem, control emotions, and can even experience personality and behavioral changes such as irritability and hallucinations. A person will be diagnosed with dementia, when two or more brain functions, such as memory and skills are significantly impaired, without being accompanied by a decrease in consciousness.

In the results of the study that respondents experienced dementia due to several factors of age and gender, the main factor was the possibility that the elderly before being admitted to the orphanage had indeed experienced dementia or even had physical limitations. According to the researcher's assumption based on the results of observations during the study, the occurrence of dementia is likely caused by the respondent's lack of physical activity, because physical movement will stimulate the brain to learn optimally. Elderly people who do a lot of physical activity will have better cognitive function so that they can avoid the risk of dementia.

Physical activity is related to brain health, physical activity is useful in cognitive function. It is related to physical activity because there is an element of movement. By moving, it will stimulate the brain to learn optimally, so that blood flow to the brain is higher so that the supply of nutrients to the brain is better. The brain needs nutrients in the form of oxygen and glucose. Lack of nutrient supply to the brain can cause disorientation, confusion, fatigue, impaired concentration and decreased cognitive function.

In line with research conducted by [Afconneri et al \(2024\)](#) in their research also said that lack of physical activity can result in dementia, due to a lack of nutrient supply to the brain which will cause disorientation, confusion, fatigue, and impaired concentration when thinking.

## CONCLUSIONS AND SUGGESTIONS

### A. Conclusions

The demographic data in this study included the age and gender of 41 respondents, more elderly people were in the age range of 75-90 years old, amounting to 22 people (53.7%) and female as many as 25 people (61%) respondents. The cognitive function of the elderly in the senior resident of Karya Kasih Kota Medan in 2024, the results were obtained that many elderly people experienced dementia as many as 34 people (82.9%) while 7 people (17.1%) had normal cognitive function.

### B. Suggestion

It is hoped that this research can be used as a source of information, reference and as additional data in identifying the picture of cognitive function in the elderly and further researchers can conduct further research in researching the influence of brain gymnastics on improving cognitive function in the elderly.

## REFERENCES

- Afconneri, Y., Herawati, N., & Deswita, D. (2024). Factors that affect the risk of dementia in the elderly. *Journal of Psychiatric Nursing (JKJ)*, 12(1), 177–186.
- Care, J. H., Isnaini, N., Komsin, N. K., Nursing, D., Muhammadiyah, U., Study Program, M., Nursing, S., & Muhammadiyah, U. (2020). *Overview of cognitive function in the elderly*. 5(4), 1060–1066.
- Djajasaputra, A. D. R., & Halim, M. S. (2019). Cognitive Function of the Elderly Who Are Engaged in Routine and Non-Routine Cognitive Activities. *Journal of Psychology*, 46(2), 85. <https://doi.org/10.22146/jpsi.33192>
- Fatmawati, A., Handajani, L., Putra, D., & Sakti, B. (2023). The relationship between cognitive function and balance and physical performance in the elderly at the turikale health center. *Indonesian Journal of Business Finance and Accounting*, 3(36), 45–55.
- Firdaus, R. (2020). Hubungan Usia, Jenis Kelamin dan Status Anemia dengan Fungsi Kognitif pada Lanjut Usia Relationship of Age, Gender and Anemia Status with Cognitive Function in the Elderly. *Faletehan Health Journal*, 7(1), 12–17. [www.journal.lppm-stikesfa.ac.id/ojs/index.php/FHJ](http://www.journal.lppm-stikesfa.ac.id/ojs/index.php/FHJ)
- Hatmanti, N. M., & Yunita, A. (2019). Elderly Gymnastics and Puzzle Therapy for Dementia in the Elderly. *Muhammadiyah Journal of Nursing*, 4(1), 104–107. <https://doi.org/10.30651/jkm.v4i1.2422>
- Irfan Permana, Asri Aprilia Rohman, & Tita Rohita. (2019). Factors Related to Decreased Cognitive Function in the Elderly. *Bina Generasi :Health Journal*, 11(1), 5562. <https://doi.org/10.35907/jksbg.v11i1.135>
- Kementerian Kesehatan. (2024). *Together with the Elderly, Happy Family*. <https://kesmas.kemkes.go.id/konten/133/0/bersama-lansia-keluarga-bahagia>
- Mardiana, K., & Sugiharto. (2022). An overview of cognitive function based on the characteristics of the elderly living in the community. *Scientific Journal of Nursing*, 8(4), 577584. <https://doi.org/10.33023/jikep.v8i4.1283>
- Ratnawati. (2021). Dementia as a Thinking Disorder in Language Disorders. *Dementia as a Thinking Disorder in Language Disorders*, 7.
- Ratumanan, S. P., Huwae, L. B. S., & Sanaky, M. (2019). Cognitive function in the elderly is reviewed based on residence and gender in the country of passo. *PAMERI:Pattimura*



- Medical Review*, 1(2), 23. <https://ojs3.unpatti.ac.id/index.php/pameri/article/view/1286>
- Supriadi, S., & Washudi, W. (2023). Programmatic physical activity is effective in improving cognitive function in the elderly. *Journal of Health Research of the Ministry of Health of Bandung*, 15(1), 193-197. <https://doi.org/10.34011/juriskesbdg.v15i1.2256>
- Situngkir, R., Lilli, S., & Asmiranda, W. (2022). *The Relationship between Cognitive Function and Social Interaction in the Elderly in Malimbong Village, Messawa District*. 5(1), 20–25. <https://doi.org/10.52774/jkfn.v5i1.94>