



THE RELATIONSHIP BETWEEN CHRONIC DISEASE HISTORY AND QUALITY OF LIFE FOR THE ELDERLY IN NURSING HOMES IN THE COVID-19 PANDEMIC

Erdanela Setiawati*

Faculty of Medicine, Baiturrahmah University.

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***Corresponding Author**

Erdanela Setiawati

Faculty of Medicine,
Baiturrahmah University.

ABSTRACT

The elderly in nursing homes experienced a high burden of chronic disease during the COVID-19 pandemic, due to restricted access to health services, which could affect their quality of life. Chronic disease is a comorbid disease that worsens the condition of the elderly who are infected with COVID-19. Elderly-group is one of the vulnerable groups that have high morbidity and mortality during a pandemic. The purpose of this study was to analyze the quality of life and chronic diseases of elderly living in nursing homes during the COVID-19 pandemic and the relationship between the two. This study used a

cross-sectional design and used WHOQOL-Bref quality-of-life questionnaire. Data analysis used the Chi-Square test with a significant level of <0.05 . Results: From 70 elderly population at Kasih-Sayang-Ibu nursing-home (PSTW) in Batusangkar, district of Tanah-Datar, based on exclusion criteria, got sample 43 elderly. Characteristics of elderly: many (58.1%) the elderly are >70 years old, 65.1% elderly are male, 55.8% elderly have a low level of education (SD), 100% elderly are Muslim, 100% elderly are widowed or do not have a partner, and 100% elderly are no longer working. The elderly who have chronic disease are few (0-2CD) as much as 86.0%. The elderly who has poor quality-of-life is 74.4%. There is no relationship between Chronic-Disease and Poor Quality-of-Life for the Elderly in a nursing home with $p=0.312$.

KEYWORDS: *Elderly; Nursing-Home; Chronic Disease; Quality of Life (QOL); COVID-19.*

INTRODUCTION

During the COVID-19 pandemic, the elderly group is the group most at risk of experiencing severity (morbidity) and death (mortality) if infected with the coronavirus. The main risk factors for the severity of COVID-19 include age, male gender, obesity, smoking, and coexisting chronic diseases such as hypertension, type 2 diabetes mellitus, and others.^[1,2,3] Data on mortality due to COVID-19 in several countries show an increase with age. The mortality rate for the elderly aged 60-69 years was 6.4% in the US, 3.6% in China, and 3.5% in Italy, increasing to 12.6% in the US, 8% in China, and 12.8% in Italy in the elderly aged 70-79 years, and the highest in the elderly with COVID-19 aged > 80 years: 25.9% in the US, 14.8% in China and 20.2% in Italy. In Indonesia, based on data from the COVID-19 distribution map as of 8-8-2021, the mortality rate in the elderly group (≥ 60 years) is 46.7%, which is the highest number compared to other age groups.

Chronic disease in the elderly is a comorbid disease that can worsen the condition of the elderly or can increase the risk of death of the elderly infected with COVID-19, 7, 8. Approximately 36.9%-44.4% of elderly aged 60 years will suffer from more than two chronic diseases. Multimorbidity has the potential to have a large negative effect on a person's quality of life and well-being. Chronic arthritis and chronic back pain had a significant inverse relationship with quality of life, while hypertension and diabetes were related to stress, and had an impact on psychological well-being.

Social restriction policies have an impact on the health of the elderly, especially on the mental and cognitive health of the elderly, the number of elderly sufferings from chronic diseases has increased and the number of complications of chronic diseases has also increased, the number of dependent elderly people also increases because access to health services is hampered. All of these can affect the quality of life of the elderly during the COVID-19 pandemic.

The purpose of this study was to determine the quality of life of the elderly in nursing homes in the era of the COVID-19 pandemic and its relationship with chronic diseases of the elderly. It is hoped that this research can help the elderly to protect themselves from contracting COVID-19 and can provide the latest data on the health of the elderly so that chronic diseases of the elderly can be kept under control and the quality of life of the elderly during the COVID-19 pandemic can be improved as optimally as possible.

METHOD

This research is an analytic study with a cross-sectional design. Data collection was carried out from December 2020 to January 2021 at a nursing home or PSTW Kasih Sayang Ibu in Batusangkar, Tanah Datar Regency, West Sumatra Province. This nursing home has a capacity for 70 elderly people. The sample size is the total sampling. From the exclusion criteria, the number of samples was 43 elderlies. The dependent variable in this study is the quality of life of the elderly. To obtain the quality-of-life data, interviews were conducted using the WHOQOL Bref questionnaire. WHOQOL Group defines the quality of life as an individual's perception of his life in society in the context of culture and value systems. The independent variable in this study was the number of chronic diseases in the elderly. Chronic disease is a disease that the elderlies have for thirty days or more in a year or the last 1 year or more or have been diagnosed by a health worker or are taking drugs prescribed by a doctor for their chronic disease. The relationship between the two variables was analyzed using the Chi-Square test. This study hypothesizes that there is no relationship between chronic disease in the elderly and the quality of life for the elderly in nursing homes. The significance level used is <0.05 .

WHOQOL-BREF consists of 24 facets covering 4 proven domains that can be used to measure a person's quality of life. The four domains are i) physical health consisting of 7 questions, ii) psychological (psychological) 6 questions, iii) social relations (social relationship) 3 questions and iv) environment (environment) 8 questions. WHOQOL-Bref also measures 2 facets of the general quality of life, namely: i) overall quality of life and ii) general health.

RESULTS AND DISCUSSION

70 elderlies living in the nursing home (PSTW) Kasih Sayang Ibu Batusangkar, Tanah Datar Regency, 43 elderlies were the respondents (sample) in this study.

Results

1. Characteristics of the Elderly

Table 1: Characteristics of Elderly Nursing Homes (PSTW) Mother's Love in Batusangkar, Tanah Datar Regency (n=43).

| Characteristics of the Elderly | | <i>f</i> | (%) |
|--------------------------------|-----------------|----------|------|
| Age | >70 years old | 25 | 58,1 |
| | 60-70 years old | 18 | 41,9 |

| | | | |
|-----------------|--------------------|----|------|
| Gender: | Male | 28 | 65,1 |
| | Female | 15 | 34,9 |
| Religion: | Islam | 43 | 100 |
| Education: | Primary school | 24 | 55,8 |
| | Junior high school | 11 | 25,6 |
| | Senior High School | 8 | 18,6 |
| | College | - | - |
| Marital status: | Married | - | - |
| | Widower/widow | 43 | 100 |
| Working status: | Work | - | - |
| | Doesn't work | 43 | 100 |

Characteristics of the elderly can be seen from table 1: based on age, most of the elderly aged >70 years were 25 people (58.1%), followed by the elderly aged 60-70 years as many as 18 people (41.9%). Based on gender category, the most elderly people with male gender are 28 people (65.1%) and 15 women (34.9%). The majority of the elderly have a relatively low level of education (elementary school education) as many as 24 people (55.8%), followed by 11 people with junior high school education (25.6%), high school education as many as 8 people (18.6%), and none of them go to college. Based on religion, all the elderly are Muslim (100%), and based on marital status, all of the elderly are widowed or widowed or do not have a partner. All the elderly are no longer working.

2. Chronic Diseases (CD) of the Elderly

Types of chronic diseases Based on those found in the elderly, it can be seen from table 2. The number of chronic diseases that the elderly have: Few (0-2 CD); Many (>2 CD), which can be seen from table 3. From Table 2, the most diseases that the elderly have are hypertension as many as 27 people (62.8%), then arthritis 10 people (23.3%), followed by COPD as many as 3 people (6.9%), Stroke, Diabetes mellitus, and Hernia.

Table 2: Chronic diseases in elderly nursing homes.

| Chronic diseases | <i>f</i> | (%) |
|--|----------|------|
| Hypertension | 27 | 62,8 |
| Stroke | 2 | 4,7 |
| Arthritis (Gout And Rheumatism) | 10 | 23,3 |
| Diabetes mellitus | 1 | 2,3 |
| COPD | 3 | 6,9 |
| Hernia | 1 | 2,3 |
| Cataract | 2 | 4,7 |
| Note: An elderly has > 1 Chronic Disease | | |

Table 3: Frequency distribution of chronic diseases in the elderly.

| Number of Chronic Diseases (CD) | <i>f</i> | % | 95%IK |
|---------------------------------|----------|------|-----------|
| Few (0-2 CD) | 37 | 86,0 | 74,4-95,3 |
| Lots (>2 CD) | 6 | 14,0 | 4,7-25,6 |
| Total | 43 | 100 | |

Based on table 3, the results obtained are generally the elderly have a few chronic diseases (0-2CD) as many as 37 people (86.0%), while the remaining 6 people (14.0%) elderly have many chronic diseases (>2 CD)

3. Quality of life for the elderly

Based on table 4, the results obtained from 43 elderlies who live in PSTW Kasih Sayang Ibu Batusangkar, district of Tanah Datar, many elderlies have a poor quality of life as many as 32 elderlies (74.4%), while those who have a good quality of life are 11 elderlies (25.6%)

Table 4: Frequency distribution of quality of life for the elderly.

| Quality of life for elderly | <i>f</i> | % | 95%IK |
|-----------------------------|----------|------|-----------|
| Good | 11 | 25,6 | 14,0-39,5 |
| Bad | 32 | 74,4 | 60,5-86,0 |
| Total | 30 | 100 | |

Table 5: Frequency distribution of elderly quality of life based on 4 domains.

| Quality of Life Domain | <i>f</i> | % |
|--------------------------|----------|------|
| 1. Physical Health: | | |
| Good | 11 | 25,6 |
| Bad | 32 | 74,4 |
| 2. Psychological Health: | | |
| Good | 13 | 30,2 |
| Bad | 30 | 69,8 |
| 3. Social Relations: | | |
| Good | 33 | 76,7 |
| Bad | 10 | 23,3 |
| 4. Environment: | | |
| Good | 37 | 86,0 |
| Bad | 6 | 14,0 |

Table 6: Relationship of each domain with quality of life for the elderly.

| Domain | Quality of Life | | <i>p-value</i> | OR 95%CI |
|-----------------|-----------------|-------------|----------------|------------------------------|
| | Good | Bad | | |
| Physical Health | Good | 10 90.9% | 0.000 | 310.000 (17.718-5423.851) |
| | Bad | 1 3.1% | | |
| | | 1 9.1% | | |
| | | 31 96.9% | | |

| | | | | | |
|----------------------|------|-------------|--------------|-------|----------------------------|
| Psychological Health | Good | 10 76.9% | 3 23.1% | 0.000 | 96.667 (8.995-1038.812) |
| | Bad | 1 3.3% | 29 96.7% | | |
| Social Relations | Good | 11 33.3% | 22 66.7% | 0.043 | - (0,524-0,849) |
| | Bad | 0 0.0% | 10 100.0% | | |
| Environment | Good | 11 29.7% | 26 70.3% | 0.312 | - (0,570-0,867) |
| | Bad | 0 0.0% | 6 100.0% | | |

From tables 5 and 6, it can be concluded that there are 4 domains related to the quality of life of the elderly:

- There is a relationship between the poor quality of life of the elderly and the poor physical health of the elderly with a p-value = 0.000 (<0.05).
- There is a relationship between the poor quality of life of the elderly and the poor psychological health of the elderly with a p-value = 0.000 (<0.05).
- There is a relationship between the poor quality of life of the elderly and the good social interaction of the elderly with a p-value = 0.043 (<0.05).
- There is no relationship between the poor quality of life of the elderly with the good elderly environment with a p-value = 0.312 (> 0.05).

4. The Relationship between chronic disease History and Quality of life in the elderly

Table 7: Relationship between Chronic Disease and Quality of life in the elderly.

| Number of Chronic Diseases (CD) | Quality of Life | | | | Total | | POR (95%CI) | p-value |
|---------------------------------|-----------------|-------------|-----------|-------------|-----------|------------|--------------------------------|--------------|
| | Good | | Bad | | | | | |
| | <i>f</i> | % | <i>f</i> | % | <i>f</i> | % | | |
| Few (0-2CD) | 11 | 29,7 | 26 | 70,3 | 37 | 100 | 1.423 (1.154-1.755) | 0.312 |
| Lot (>2CD) | 0 | 0,0 | 6 | 100 | 6 | 100 | | |
| Total | 11 | 25,6 | 32 | 74,4 | 43 | 100 | | |

Based on table 7, the following results are obtained: there are 23 elderlies (70.3%) with few chronic diseases (0-2 CD) who have a poor quality of life. There are 6 elderlies (100%) with many chronic diseases (>2CD) who have a poor quality of life. None of the elderly have many chronic diseases (>2CD) and have a good quality of life. There are 11 elderlies (29.7%) who have a few chronic diseases (0-2CD) and have a good quality of life. The results of statistical tests (Chi-square), because the Expected value is less than 5, the Fisher's Exact Test

is used with $p\text{-value} = 0.312$ ($p > 0.05$), it can be concluded that there is no relationship between Chronic Diseases in the elderly and Health Status Bad old man.

DISCUSSION

The characteristics of the elderly living in the PSTW nursing home, Ibu Batusangkar, are almost the same as the elderly living in nursing homes outside West Sumatra. Characteristics that are different from other studies are about gender, there are more men (28 elderlies or 65.1%) who live in nursing homes. This is related to Minangkabau customs where many elderly West Sumatran women (Minang women) still have houses in their villages that are still decent and comfortable to live in, so few of them live in nursing homes.

The most chronic disease that the elderly in nursing homes is hypertension (62%).^[12] Few chronic diseases (0-2 CD) are more common in the elderly (86.0%). These results are the same as those of Bestari in 2016 and Lionthina, M et al. year 2020.^[13,14]

The quality of life of the elderly living in nursing homes is mostly poor (74.4%). Based on the 4 domains of quality of life obtained, there is a relationship between the poor quality of life of the elderly and poor physical health of the elderly ($p\text{-value} = 0.000$), there is the relationship between the poor quality of life of the elderly and poor psychological health of the elderly ($p\text{-value} = 0.000$), there is a relationship between quality of life of the elderly bad with good elderly social interaction ($p\text{-value} = 0.043$). There is no relationship between the poor quality of life for the elderly and a good elderly environment ($p\text{-value} = 0.312$). In the WHOQoL Bref, factors that are included in the physical health domain are *Pain and Discomfort, Energy and Fatigue, Sleep And Rest, Mobility, Activities, Medication and Work* and hypertension is the silent killer (without symptoms) or no symptoms of pain and discomfort are associated with it. experienced by the elderly, so there is no relationship between poor physical health and poor quality of life in this study.

There is no correlation between Chronic Disease and Quality of Life for the Elderly in Nursing Homes (PSTW) Ibu Batusangkar, Tanah Datar Regency with $p\text{-value}=0.312$. This is the same as Soosova's research in 2016.^[15] Meanwhile, Indrayani research in 2017 stated that the variables that had a significant relationship with the quality of life of the elderly were education, work, and family support.^[16]

During the COVID-19 Pandemic, the elderly who have chronic diseases in nursing homes are recommended by the government not to go to the public health center or hospitals, because the elderly are vulnerable and are most at risk of severity and death due to COVID-19. If the Elderly Needs to Go to the Health Center/Hospital:

1. Make sure the elderly understand how to use masks properly and why they should use masks.
2. Make sure the elderly don't touch their faces and do not touch any common objects while in the hospital.
3. Frequently clean the elderly's hands with hand sanitizer or ask the elderly to wash their hands with soap and running water if the elderly can still do it.
4. Keep a social distancing more than one meter from other people.
5. Ask for the queue number by the delivery person and bring the elderly patient sometime before the queue number is called to minimize contact with others.
6. When meeting with a doctor, do not remove the mask and do not touch anything. Remember the doctor's office is just as infectious as any other place.
7. Bring food and drinks from home and do not stop by other places, including waiting at the pharmacy.
8. Explain in detail the existing complaints, including if there is a suspicion of contact with people exposed to Covid-19, for example from people who visit, or the elderly who have traveled to other areas.
9. Before going to the hospital, prepare all the necessary documents and notes on the questions you want to ask.

CONCLUSION

The elderly who lives in the Loving-Saving-Mother Nursing Home (PSTW) Batusangkar, district of Tanah Datar:

1. Many elderlies are fallen into the category of having few diseases few chronic diseases (0-2 CD),
2. Many have a poor quality of life
3. There is no relationship between the number of chronic diseases that the elderly has and the poor quality of life of the elderly

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REFERENCES

1. Wu, C., Chen, X., Cai, Y., Zhou, X., Xu, S., Huang, H., & Song, Y. (2020). Risk factors associated with acute respiratory distress syndrome and death in coronavirus disease pneumonia patients in Wuhan, China. *JAMA internal medicine*, 2019; 180(7): 934-943.
2. Zhou, F., Yu, T., Du, R., Fan, G., Liu, Y., Liu, Z., & Cao, B. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *The lancet*, 2020; 395(10229): 1054-1062.
3. Garibaldi, B. T., Fiksel, J., Muschelli, J., Robinson, M. L., Rouhizadeh, M., Perin, J., & Gupta, A. Patient trajectories among persons hospitalized for COVID-19: a cohort study. *Annals of internal medicine*, 2021; 174(1): 33-41.
4. Chen, Y., Klein, S. L., Garibaldi, B. T., Li, H., Wu, C., Osevala, N. M., & Leng, S. X. Aging in COVID-19: Vulnerability, immunity, and intervention. *Ageing research reviews*, 2021; 65: 101205.
5. Distribution Map of the Age Group Positive Covid-19 Who Died, available at: <https://covid19.go.id/peta-sebaran>
6. Nandy, K., Salunke, A., Pathak, S. K., Pandey, A., Doctor, C., Puj, K., & Warikoo, V. Coronavirus disease (COVID-19): A systematic review and meta-analysis to evaluate the impact of various comorbidities on serious events. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 2020; 14(5): 1017-1025.
7. Khan, M. M. A., Khan, M. N., Mustagir, M. G., Rana, J., Islam, M. S., & Kabir, M. I. Effects of underlying morbidities on the occurrence of deaths in COVID-19 patients: A systematic review and meta-analysis. *Journal of global health*, 2020; 10(2).
8. Callender, L. A., Curran, M., Bates, S. M., Mairesse, M., Weigandt, J., & Betts, C. J. The impact of pre-existing comorbidities and therapeutic interventions on COVID-19. *Frontiers in immunology*, 2020; 11.
9. Pati, S., Swain, S., Knottnerus, J. A., Metsemakers, J. F., & van den Akker, M. Health-related quality of life in multimorbidity: a primary-care based study from Odisha, India. *Health and quality of life outcomes*, 2019; 17(1): 1-11.
10. Kemenkes RI. Guidelines for Elderly Health Services in the Era of the Covid-19 Pandemic. Jakarta, 2020.

11. Nurti, Yevita, et al. The Role of Minangkabau Matrilineal Families on the Existence of Elderly Women Case Study in Payonibung Village, North Payakumbuh District, Payakumbuh. Andalas University Anthropology Department, 2007.
12. Kemenkes RI Riskesdas (Basic Health Research). Balitbangkes, 2013.
13. Bestari, B. K., & Wati, D. N. K. More than one chronic disease causes an increase in feelings of anxiety in the elderly in Cibinong District. *Jurnal Keperawatan Indonesia*, 2016; 19(1): 49-54.
14. Lionthina, M., Wiwaha, G., Gondodiputro, S., Sukandar, H., Arya, I. F. D., & Sunjaya, D. K. Elderly Quality of Life and Its Predictors in Chronic Disease Management Program: Indonesian Version of WHOQOL-BREF and WHOQOL-OLD. *Majalah Kedokteran Bandung*, 2020; 52(1): 28-34.
15. Soósová, M. S. Determinants of quality of life in the elderly. *Cent Eur J Nurs Midw*, 2016; 7(3): 484-93.
16. Indrayani dan Sudarto Ronoatmodjo. Factors related to the quality of life of the elderly in Cipasung village, Kuningan district in 2017. *Jurnal Kesehatan Reproduksi*. Tahun 2018; 9(1): 69-78.