



## Factors Related to the Quality of Life among Elderly with Dementia: A Scoping Review

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### ARTICLE INFO

#### Article history:

Received 19 March 2023

Accepted 15 June 2023

Published 29 June 2023

#### Keyword:

Dementia  
Older person  
Correlation

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DOI: 10.30604/jika.v8i2.2053  
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### ABSTRACT

Dementia is a degenerative neurological condition in the elderly with a syndrome of decreased brain function that affects cognitive, memory and function. One of the significant impacts of dementia is that it causes changes in the quality of life influenced by various factors. This study aims to examine the factors that affect the quality of life of the elderly with dementia based on a scoping review. The design of this research is a literature review. Journal searches were performed on the NCBI, SpringerLink, BioMed Central and EBSCOhost websites using the keywords ("Factors") OR ("Risk Factors") OR ("Predictors") AND ("Influence") OR (Affect) OR (Impact) OR ("Associated") AND ("Quality of Life") OR (Health Related Quality of Life) AND ("Elderly") OR ("Aged" OR ("Older Adults") AND ("Dementia") according to inclusion criteria. The journals were then assessed for quality using JBI (Joanna Briggs Institute) and analyzed using thematic analysis method. A total of 11 relevant journals were used in this study with the results of the analysis showing that physical factors are the biggest factors affecting the quality of life of elderly dementia by 46%, followed by psychological factors 34%, other factors 8%, demographic characteristics factors 8% and social factors 4%. Based on the findings of this study, various treatment strategies or interventions should be developed and implemented to improve the quality of life of the elderly with dementia by further identifying the factors that affect the quality of life.

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### INTRODUCTION

Elderly is defined when a person has reached the age of 60 years or above. In the elderly, there will be a gradual decline or decrease in the body which includes a decrease in the body's resistance to protect from various kinds of stimuli, a decrease in the ability of the body's tissues and cells to recover and maintain its structure and function which causes the body to be unable to survive, against scratches from the outside and repair the damage, so the body will be very vulnerable to a disease.

According to data from the World Population Prospects (2015) explains the number of elderly people aged 60 years or above amounting to 901 million people from the total world population in 2015. And, in 2030 it is estimated to increase by around 56% or equivalent to 1.4 billion elderly people. age. However, until 2050 it is projected that it will continue to increase, reaching 2.1 billion (United Nations,

2015). Meanwhile, the prevalence of the elderly in Indonesia in 2019 reached 9.60% or 25.66 million people and is predicted to increase in 2035, reaching 15.77% or the equivalent of 48.2 million people (Kementerian Kesehatan RI, 2019).

Changes that occur in the tissues and cells of the elderly body will gradually affect the function of the organs as a whole. This process is known as the degenerative process (Nisak et al., 2018). One of the health problems related to degenerative conditions today is about health problems in decreasing cognitive function, especially dementia. Dementia is a dangerous degenerative neurological condition with a collection of symptoms as a result of decreased brain function that affects the patient's cognitive, memory and function (Valk et al., 2017).

*World Health Organization* (2020) states that the prevalence of elderly people with dementia in the world is around 50 million people with nearly 60% of people with

dementia coming from low to middle income countries. And there can be an increase in cases reaching 10 million new cases every year. Meanwhile, according to Prince et al., (2016) the number of elderly people suffering from dementia in Indonesia in 2015 was 1.2 million people and is estimated to increase by 2.5 million in 2030 (Prince et al., 2016).

Based on the World Health Organization (2020), dementia also has an impact on families who care for them, such as causing physical, emotional, and financial stress which then causes stress so that the family burden increases. In addition, another impact that is no less important if dementia is not treated properly and quickly is that it can have an impact on death and in particular affect the quality of life of the elderly (Khanifah & Widyastuti, 2018; Sari et al., 2018).

According to research by Khanifah & Widyastuti, (2018), the quality of life for the elderly with dementia has decreased on average. The decline in quality of life can be influenced by various factors, several studies reveal several factors that affect the quality of life of elderly people with dementia including depression, anxiety, dependence on others, pain, lack of interaction with others, loneliness, mobility restrictions, falls and disease. comorbidities become a risk factor in the decline in the quality of life (Holopainen et al., 2019; Nelis et al., 2019). In accordance with the results of these studies, there are only a few factors related to the quality of life in the elderly with dementia and the lack of further identification of the factors that can affect the quality of life.

The study by Holopainen et al., (2019) emphasizes that it is necessary to know and look for any factors that can affect the quality of life in the elderly with dementia in order to be able to provide treatment strategies or interventions that are suitable for each individual's condition (Holopainen et al., 2019). Therefore, identifying these factors is expected to help improve the quality of life of the elderly with dementia. Based on the description above, researchers are encouraged to explore more deeply what are the factors that can affect the quality of life of the elderly with dementia based on a literature review.

## METHODS

The research design in this study used a scoping review. Literature review research is research conducted by collecting data through various journals which are then read, recorded, and processed into research material (Melfianora, 2019). The following are the stages of the process in conducting a scoping review study.

### Identification of problems

The concentration or focus of the problem in this study is what are the factors that affect the quality of life of the elderly with dementia.

### Data search

Search data in this literature review using 4 websites (websites), namely NCBI, SpringerLink, BioMed Central and EBSCOhost by adjusting keywords and booleans consisting of: ("Factors") OR ("Risk Factors") OR ("Predictors") AND ("Influence") OR (Affect) OR (Impact) OR ("Associated") AND ("Quality of Life") OR (Health Related Quality of Life")

AND ("Elderly") OR ("Aged" OR ("Older Adults") AND ("Dementia").

### Screening

This screening stage is a selection or screening stage with the aim of selecting journals or data according to the topic being studied by passing several inclusion criteria as follows: 1) Journals published within the last 5 years (2016-2021). 2) Journals that can be accessed in full (full text). 3) International journal in English. 4) The types of journals analyzed are research articles with cross-sectional research designs, case control studies and qualitative research. 5) Journal that discusses the factors that affect the quality of life of elderly people with dementia. 6) Journals that are not duplicated from one website to another.

### Quality Rating

The quality of the design and methods of each research journal obtained was assessed for quality using the JBI (Joanna Briggs Institute) instrument. There are three types of JBI instruments used, including analytical cross-sectional studies (8 items checklist), case control studies (10 items checklist) and qualitative research (10 items checklist) which are in accordance with the criteria of this research.

### Data Extraction

Journals or data that have passed the quality assessment process, then data extraction is carried out by presenting in the form of a table containing: title (title), publication year (year of publication), country of origin (research place), study design (research design), quality score (study quality value), population (population), sample (samples), outcome (research results) and comments (researchers comments).

### Data analysis

The data that has been extracted, then analyzed the data using the thematic analysis data analysis method. This method is a way of analyzing data that aims to find themes through journals or data that have been obtained previously.

## RESULT AND DISCUSSION

The initial results of the search for journals as a whole obtained a total of 260,741 journals which were then first screened with the results found to be 55,498 journals based on the criteria of journals published in the 2016-2021 period, English-language international journals and journals that did not contain duplication. Furthermore, the journals were selected based on full access (full text) with the results obtained as many as 20,663 journals. Then, the final screening was carried out through abstracts or titles by adjusting the criteria for journal types of research articles with research designs of cross-sectional studies, case control studies and qualitative research, as well as journals that discuss factors that affect the quality of life of elderly people with dementia, which obtained as many as 11 final journals that match the inclusion criteria that have been determined previously for data analysis. Detailed results from a total of 11 journals on each website include 10 journals from NCBI, SpringerLink 1 journal, BioMed Central 0 journals, and EBSCOhost 0 journals.

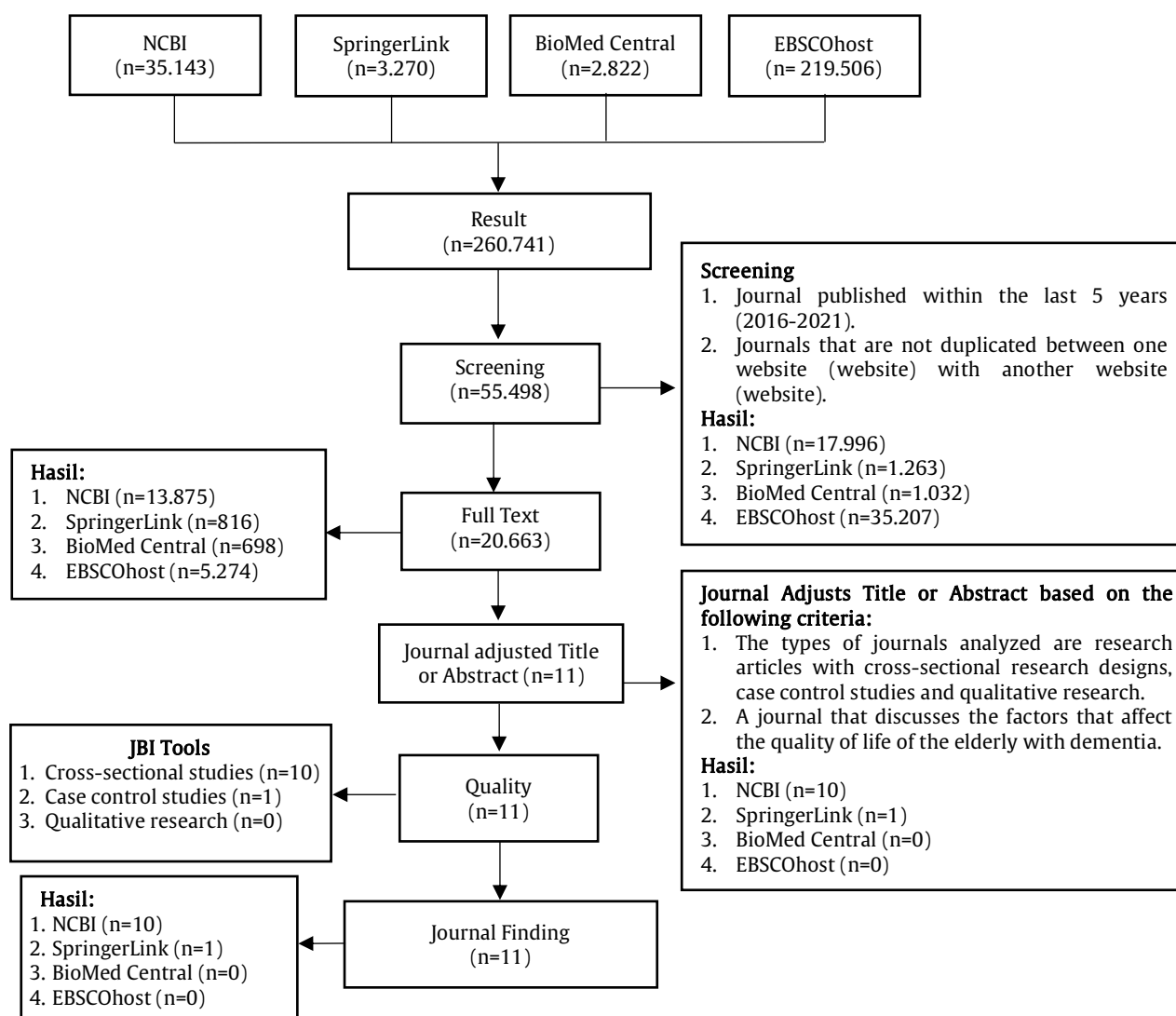


Figure 1. Prisma chart

Table 1. Data analysis

No	References	Design	Quality of study	Result
1.	(Rostad et al., 2017).	Cross-sectional studies.	6/8 (75%).	Pain has a direct effect on a poorer quality of life in patients with severe or severe dementia. Meanwhile, neuropsychiatric symptoms and depressive symptoms were indirectly associated with poorer quality of life in patients with severe or severe dementia, with pain mediating the relationship between the two.
2.	(Honarvar et al., 2020).	Cross-sectional studies.	5/8 (62,5%).	Hypertension (comorbidity) and BMI (Body Mass Index) categories of excess and obesity have an indirect impact on decreasing the quality of life of the elderly with dementia through AD (Alzheimer's Disease). While physical activity and adequate nutritional status (vitamin E, vitamin C, insoluble fiber) indirectly also have an impact on a better quality of life through AD (Alzheimer's Disease).
3.	(Klapwijk et al., 2016).	Cross-sectional studies.	6/8 (75%).	Pain, neuropsychiatric symptoms, dementia severity, functional ADL comorbidities (psychiatric/mood disorders and lung disease) and age were independently associated with decreased quality of life in patients with moderate to severe dementia.
4.	(Salminen et al., 2019).	Cross-sectional studies.	6/8 (75%).	Adequate energy intake is associated with better health-related quality of life (HRQoL) in patients with very mild/mild or moderate dementia. Meanwhile, dementia severity was also associated with worse HRQoL in patients with the majority of severe dementia.
5.	(Lüdecke et al., 2019).	Case control studies	7/10 (70%)	Physical restraints, use of psychotropic drugs and agitation were negative predictors of decreased quality of life in dementia patients between the intervention group or the group with special dementia care and the control

6.	(Henskens et al., 2019).	Cross-sectional studies.	6/8 (75%).	group. In addition, the group with special dementia care was a positive predictor of a better quality of life in dementia patients.
7.	(Appelhof et al., 2017).	Cross-sectional studies.	6/8 (75%).	Symptoms of depression, agitation and apathy, comorbidities (neurological disease, lung disease, endocrine/metabolic disease and psychiatric/mood disorders) or having more than one comorbidity, and gender (male) were predictors of decreased quality of life in patients with moderate to severe dementia.
8.	(Garre-Olmo et al., 2017).	Cross-sectional studies.	6/8 (75%).	Quality of life of patients with Young-Onset Dementia (YOD) was negatively associated with advanced dementia or dementia severity, Psychotropic Drug Use (PDU) or use of psychotropic drugs and neuropsychiatric symptoms (agitation, depression and apathy).
9.	(Ibsen et al., 2019).	Cross-sectional studies.	6/8 (75%).	The direct effect that occurs in decreasing the quality of life of Alzheimer's type dementia patients is influenced by the level of dependence. While the indirect effects that occur on the decrease in quality of life are influenced by ADL functional ability, medical comorbidities, behavioral and psychological symptoms (neurpsychiatry) through their effects on the level of dependence, and are also influenced through cognitive status, behavioral and psychological symptoms (neurpsychiatry), where the effects of both of these are mediated through ADL functional ability and degree of dependence.
10.	(van de Rijt et al., 2021).	Cross-sectional studies.	6/8 (75%).	The presence of high social support, lower scores on depressive symptoms and spending time or engaging in outdoor activities FDC (Farm-Based Day Care) were associated with higher scores on quality of life among dyads with dementia.
11.	(Roitto et al., 2019).	Cross-sectional studies.	7/8 (87,5%)	Oral function and nutritional status in patients with dementia were found to be worse than in patients without dementia. Consequently, poorer oral function and nutritional status are directly negatively associated with lower quality of life in dementia patients.
				Patients with severe dementia had a poorer HRQoL (health-related quality of life) than patients with mild to moderate dementia. Meanwhile, a higher severity or burden of neuropsychiatric symptoms was found to be correlated with a better HRQoL, especially in severe dementia than in mild to moderate dementia which was not significantly associated.

**Table 2. Data Interpretation**

Reference	Sub Factors	Factors
(Klapwijk et al., 2016).	Age	Demographic Characteristics
(Henskens et al., 2019).	Gender	
(Rostad et al., 2017); (Klapwijk et al., 2016).	Pain	
(Honarvar et al., 2020); (Klapwijk et al., 2016); (Henskens et al., 2019); (Garre-Olmo et al., 2017).	Comorbidity	
(Klapwijk et al., 2016); (Salminen et al., 2019); (Appelhof et al., 2017); (Roitto et al., 2019).	Severe Dementia	
(Lüdecke et al., 2019).	Physical Restraint	Physical
(Klapwijk et al., 2016); (Garre-Olmo et al., 2017).	ADL capabilities	
(Honarvar et al., 2020); (Ibsen et al., 2019).	Physical Activity	
(Garre-Olmo et al., 2017).	Cognitive Status	
(van de Rijt et al., 2021).	Mouth Function	
(Honarvar et al., 2020).	BMI (Body Mass Index)	
(Garre-Olmo et al., 2017).	Addiction Level	
(van de Rijt et al., 2021); (Honarvar et al., 2020).	Nutritional Status	
(Rostad et al., 2017); (Klapwijk et al., 2016); (Appelhof et al., 2017); (Garre-Olmo et al., 2017); (Roitto et al., 2019).	Neuropsychiatric Symptoms	
(Rostad et al., 2017); (Henskens et al., 2019); (Ibsen et al., 2019).	Symptoms of Depression	Psychological
(Lüdecke et al., 2019); (Henskens et al., 2019).	Agitation	
(Henskens et al., 2019).	Apathetic	
(Ibsen et al., 2019).	Social Support	Social
(Lüdecke et al., 2019); (Appelhof et al., 2017).	Use of Psychotropic Drugs	Other
(Lüdecke et al., 2019).	Dementia Special Treatment	

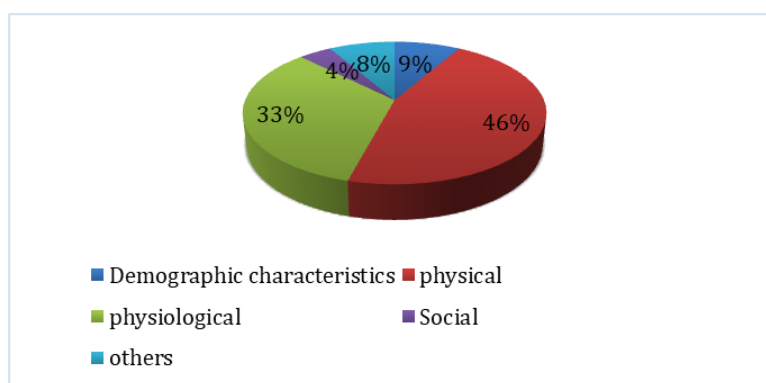


Figure 2. Frequency of Factors Affecting Quality of Life for Elderly with Dementia

Based on (Figure 2), the results of the analysis of 11 journals found that the factors that affect the quality of life of the elderly with dementia consist of physical factors by 46%, followed by psychological factors 34%, demographic characteristics factors and other factors each of 8 %, and finally there is a social factor of 4%. These factors are also sub-categorized in each of the factors described in (Table 2).

#### Demographic Characteristics Factors

Age is one of the factors that influence the decline in quality of life, this is in accordance with the exposure of Mjørud et al., (2014) which states that the quality of life of people with dementia shows a decline with increasing age, where the quality of life of patients with dementia is worse among those with dementia. the youngest (<79) and oldest (>90) patients.

While the male sex factor found the same results in the study of Pu et al., (2021) which revealed that the decline in the quality of life of the elderly with dementia in the social relationship domain could be influenced by male sex because men generally showed more behaviors (eg aggressiveness or competitiveness) that are perceived as barriers to forming social relationships.

#### Physical Factor

A person's risk of experiencing pain increases, one of which is due to poorer cognitive status. Pain can affect the decline in the quality of life of the elderly with dementia, these results are in line with the research of Hendriks et al., (2014) which also reported that pain was negatively related to poor quality of life in the elderly with dementia.

Comorbidity factors based on research by Nelis et al., (2019) explained that comorbidity is an important risk factor for quality of life or well-being and poor health status in the elderly with dementia. The number of comorbid conditions was also associated with a low quality of life score. The elderly with severe comorbidities ( $\geq 5$  conditions) showed the greatest impact on their quality of life.

Next, there is the severity factor of dementia, where this factor is quite often found in the category of physical factors. Elderly people with severe dementia were found to have a negative relationship with worse health-related quality of life (HRQoL) than older people with mild or moderate dementia (Martyr et al., 2018).

Physical restraints in the elderly with dementia usually include the use of bedside rails or tying the patient to bed, the use of seat belts and the use of locks on chairs that prevent the patient from standing. The existence of physical

restraints is known to have an impact on decreasing the quality of life of elderly patients with dementia because it can increase the risk of decline in ADL functional and cognitive (Beerens et al., 2014).

Better functional ability to perform ADLs (activities of daily living) is associated with higher levels of quality of life. Meanwhile, the presence of disability or functional impairment in ADL is a major contributor to the decline in quality of life, although in the early stages of the disease it only contributes minimally to a decrease in quality of life (Giebel et al., 2014).

Regular physical activity has many benefits for the health of individuals, especially the elderly, including improving physical function and reducing the risk of morbidity and mortality due to disease. Performing regular physical activities such as balance exercises, leisure activities outside the room (eg walking) can have an effect on a better quality of life in the elderly with dementia (Beerens et al., 2018).

The next physical factor is cognitive status. The presence of cognitive impairment can have an impact on the functioning of patients with dementia. Impaired cognitive status is reported to increase with the development of dementia, where the elderly with severe or severe dementia tend to have a decreased quality of life due to a significant decline in cognitive status (Clare et al., 2014).

Oral function is one of the oral health problems among the elderly with dementia. Based on research by van de Rijt et al., (2019) explained that worse oral function influenced by xerostomia, orofacial pain and poor chewing ability had a negative effect on decreased quality of life related to oral health (OHQoL) in elderly dementia. The reduced function of the mouth such as the ability to chew will cause the elderly to avoid food and can also have an impact on their nutritional status.

BMI or often referred to as BMI (Body Mass Index) is one of many physical factors that affect the quality of life of the elderly. Based on the study of Wang et al., (2018), the presence of excess BMI and obesity is associated with lower HRQoL in aspects of quality of life which include independent living, social relationships, and pain experience among elderly people aged 70-90 years with dementia.

The next factor is the level of dependence, the results of the finding of this factor are in line with research by Jones et al., (2015) which states that a high level of dependence significantly affects the quality of life of the elderly with Alzheimer's type dementia along with the development of the severity of the dementia. This condition is associated because as the severity of dementia increases, the level of dependence will also increase.

Balanced nutritional status is very important among the elderly population. If the intake of these nutrients is less, it can increase the risk of malnutrition. This statement is supported by Yildiz et al., (2015) who revealed that malnutrition in patients with dementia of the Alzheimer's type can increase the risk of morbidity and mortality, and is associated with increased dependence, advanced stages of dementia, agitation, delusions, hallucinations and falls. indirectly or indirectly can affect the quality of life.

Energy intake is an important complementary component of nutritional status. An increase in adequate energy intake is thought to be able to maintain ADL function, where energy intake can indirectly modify health-related quality of life (HRQoL) through ADL function in the elderly with dementia because ADL function will tend to decrease along with the development of dementia (Sun et al., 2018).

### Psychological Factors

Neuropsychiatric symptoms (NPS) as one of the psychological factors that can affect the quality of life of elderly dementia are in line with the results of research by Kooten et al., (2017) which also states that neuropsychiatric symptoms have been consistently proven to be predictors of poor health and have a negative impact on decreased mental health. quality of life of the elderly, especially those with dementia in nursing homes. Because the results are associated with the use of psychotropics in treating these neuropsychiatric symptoms.

As with neuropsychiatric symptoms, depressive symptoms which are a sub of neuropsychiatric symptoms in the elderly with dementia are also often treated using antidepressant drugs, this of course can increase the risk of the elderly getting other diseases and have an impact on decreasing the quality of life of the elderly with dementia (Beerens et al., 2013).

Agitation is a form of expression of annoyance, anxiety, restlessness, indifference and incoherent pacing and frequent hand-wringing that we sometimes encounter in people with dementia. Elderly people with dementia who have severe or severe agitation overall will have an impact on their low quality of life. This is because agitation is often the reason for the use of psychotropic drugs and physical restraint (Schmüdderich et al., 2021).

In addition, other psychological factors, namely the presence of apathy that does not care or ignore everything in dementia patients which has significant consequences for increasing dependence, increasing disability, burden on caregivers, poor response to treatment, faster cognitive decline, health bad, even death and can also have a significant impact on quality of life (Tierney et al., 2018).

### Social Factor

Social support was the only factor that was found to affect the quality of life of elderly people with dementia. This is supported by the findings of Beerens et al., (2018) which show that high social support such as including family support, friend support and the living environment can reduce the risk of mortality experiencing mental disorders, diseases and especially improve a better quality of life in children. elderly with dementia. This is because social support becomes a support that can give meaning to life and a stronger sense of purpose in the elderly (Beerens et al., 2018).

### Other Factors

The use of these psychotropic drugs is related to previous neuropsychiatric symptoms that lead to high consumption of psychotropic drugs. This is in line with the research of Mulders et al., (2019) which stated that the QoL level of elderly people with dementia may decrease if they take more drugs including psychotropic drugs and other types of drugs indicating that they may have more other illnesses. These findings may support that comorbidity is associated with a lower quality of life in the elderly with dementia (Mulders et al., 2019).

Special care for dementia is another factor that has a positive effect on the quality of life of the elderly with dementia. The study from Kok, Berg, & Scherder, (2013) showed similar results, where if there were special care units (SCU) with several facilities such as customized care environment conditions, high staff ratio, patient relatives were involved in the treatment. The assessment, specially trained care staff in dealing with other dementias, as well as supporting diagnostic equipment, therapy for patients and others have proven to show a trend towards a good functional status and quality of life in the elderly with dementia (Kok et al., 2013).

### CONCLUSIONS

The findings based on this literature review study can be concluded that there are several factors that affect the quality of life of the elderly with dementia. These factors consist of 5 factors including physical factors (pain, comorbidities, dementia severity, physical restraint, ADL functional ability, physical activity, cognitive status, oral function, BMI (Body Mass Index), dependency level, nutritional status and intake energy) as the most influential factor, followed by psychological factors (neuropsychiatric symptoms, symptoms of depression, agitation and apathy), other factors (use of psychotropic drugs and special treatments), demographic characteristics factors (age and gender (male) and factors Social support (social support). Overall, these factors are factors that play a role in influencing the decline in quality of life and improvement in quality of life in the elderly with dementia. Based on these findings, various treatment strategies or interventions should be developed and implemented to improve the quality of life of the elderly. dementia age by identifying further related factors which can affect the quality of life of the elderly with dementia.

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