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Original Research

Cognitive Status and Quality of Life Among Older Adults: Implications for the Development of an Interdisciplinary Home Visit Model

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A B S T R A C T

Dementia and cognitive impairment are rapidly increasing worldwide, with more than 57 million cases globally and a projected rise in low- and middle-income countries. Indonesia ranks among the countries with the highest number of dementia cases in Southeast Asia, with Yogyakarta reporting a high proportion of older adults at risk. Despite this growing burden, community-based dementia care models remain limited, and most older adults rely primarily on family caregivers. This situation highlights an urgent need for approaches that not only address cognitive decline but also improve the quality of life (QoL) of older adults living in the community. This study aimed to determine the relationship between the severity of cognitive impairment and QoL among community-dwelling older adults and to provide preliminary evidence for the development of an interdisciplinary home visit model tailored to the Indonesian context. A correlational study was conducted involving 30 older adults aged ≥60 years living with their families in Yogyakarta. Cognitive status was assessed using the Mini-Mental State Examination (MMSE), and QoL was measured using the WHOQOL-BREF. Data were analyzed using Spearman's rank correlation. There was a significant relationship between the severity of dementia and QoL in the physical domain ($r_s = 0.428$; $p = 0.018$) and the environmental domain ($r_s = 0.440$; $p = 0.015$). These findings indicate that greater dementia severity was associated with lower QoL in the physical and environmental domains. The findings provide preliminary evidence supporting the development of an interdisciplinary home visit model in Indonesia, particularly one that integrates physical mobility support, environmental safety optimization, and family-centered care. Larger studies are recommended to strengthen this foundation before full model implementation.

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INTRODUCTION

Dementia is a general term for a group of diseases that affect memory, other cognitive abilities, and behavior, significantly interfering with an individual's ability to perform daily activities. Dementia is a leading cause of disability and dependence among older adults and is often associated with mental health disorders, particularly among those requiring long-term care (Cepoiu-martin et al., 2016; Tori et al., 2020). According to the World Health Organization, approximately 57 million people worldwide are living with dementia, more than 60% of whom reside in low- and middle-income countries. Nearly 10 million new cases are reported each year, making dementia the seventh leading cause of death and one of the major causes of disability and dependence among older adults globally (Alzeimer's Disease International, 2024; World Health Organization, 2025).

Indonesia is a low- and middle-income country with more than four million older adult people living with dementia (Hogervorst et al., 2021). The country ranks ninth globally in terms of the number of people with dementia (Law & Hu, 2025). The impact of this growing number is likely to be substantial, partly due to the limited availability of healthcare services and support for older adults, as well as the lack of dementia care policies and effective management strategies (Widyastuti et al., 2023). Most people with dementia in Indonesia are cared for by their families within the community (Farina et al., 2023). This situation may be more challenging than in high-income countries, where a wider range of care facilities, services, and community support systems are available (Mahendradhata, Y., Trisnantoro, L., Listyadewi, S., Soewondo, P., Marthias, T., Harimurti, P., & Prawira, 2017; Sari et al., 2024). Older adults with dementia require ongoing care, which may result in physical, emotional, and psychological burdens for both patients and caregivers and often leads to prolonged periods of stress (Alzeimer's Disease International, 2024; Arneliwati et al., 2025; Reed et al., 2017).

Older adults with dementia frequently experience a decline in quality of life due to the loss of independence. People with dementia also commonly report problems related to mobility and social support, both of which can affect quality of life (Rahardian & Juniwati, 2023). Increased physical activity has been shown to improve quality of life among people with dementia; however, older adults with dementia tend to have lower levels of physical activity than those without dementia (Jayakody & Arambepola, 2022). Delayed detection and management of dementia may further reduce the quality of life of older adults. This highlights the need for comprehensive interventions for older adults with dementia in Indonesia (Kenne Malaha et al., 2025). Declining cognitive status is generally associated with lower quality of life (QoL), affecting multiple domains. In the physical domain, cognitive decline may impair the ability to perform daily activities. In the psychological domain, it may contribute to depression, anxiety, and reduced life satisfaction. In the social domain, it may lead to decreased social participation, strained relationships with family members or caregivers, and feelings of isolation. In the environmental domain, worsening cognitive status increases the need for environmental support, including access to healthcare services, caregiver assistance, and home safety measures (Gopalakrishnan et al., 2024).

Older adults with dementia require long-term care supported by appropriate interventions and facilities. However, currently available services remain limited, particularly for individuals with more advanced dementia. Therefore, Yogyakarta was selected as the study location (Rahardian & Juniwati, 2023). Previous studies have suggested that integrating cognitive stimulation therapy into an interdisciplinary approach, combined with physical activity interventions, may provide more comprehensive and needs-based care (Elmiyanti & Salamung, 2023; Marinho et al., 2021; von Soest et al., 2020). Nevertheless, Indonesia still lacks community-based dementia care models that are adapted to local cultural, family, and environmental contexts. Evidence regarding the relationship between cognitive status and QoL is needed as a preliminary foundation for model development. Therefore, this study aimed to provide early empirical evidence that may support the development of an interdisciplinary home visit model for older adults with dementia in Indonesia.

METHOD

This study employed a correlational quantitative design. The researchers screened 45 older adults and identified 30 individuals who met the study criteria. Thirty older adults (≥60 years) living with their families in Yogyakarta were selected using purposive sampling. This sample size meets the minimum requirement for non-parametric correlation testing (≥30 participants). The inclusion criteria were: (a) aged ≥60 years; (b) able to participate in and complete the research instruments with or without assistance from a caregiver; (c) living with family in the community; and (d) both the older adults and their family members agreed to participate in the study. The exclusion criteria were: (a) experiencing a medical emergency; (b) family members and/or older adults who decided to withdraw from the

study; and (c) experiencing special circumstances that prevented continued participation in the study.

His study utilized the Mini-Mental State Examination (MMSE) to assess cognitive impairment. The MMSE is a 30-point questionnaire commonly used in research and clinical settings to screen for cognitive impairment. It was developed by American psychiatrist Marshal F. Folstein and colleagues. MMSE scores are interpreted as normal (24–30), probable cognitive impairment (17–23), and definite cognitive impairment (0–16). The MMSE has demonstrated validity coefficients ranging from r = 0.357 to 0.102 and a Cronbach's alpha reliability coefficient of 0.763 (Thea et al., 2022). Quality of life was assessed using the WHOQOL-BREF, which consists of four domains: physical, psychological, social, and environmental. Developed by the World Health Organization, the instrument contains 26 self-report items in which respondents are asked to rate their condition using a five-point scale. In this study, the raw scores for each domain were transformed to a scale ranging from 0 to 100. Scores of ≤50 were categorized as poor quality of life, while scores of >50 were categorized as good quality of life. Previous studies have shown that the WHOQOL-BREF is a valid and reliable instrument for assessing quality of life among older adults, with validity coefficients ranging from 0.89 to 0.95 and reliability coefficients ranging from 0.66 to 0.87 (Ch Salim et al., 2007; Fridolin, Musthofa and Suryoputro, 2022).

Data collection was conducted directly by the research team through door-to-door home visits to assess cognitive impairment and quality of life among older adults from July to August 2025. The data were subsequently analyzed using Spearman's rank correlation test to examine the relationship between the two variables. The findings were then used as a basis for proposing a care model for older adults with dementia. Ethical approval for this study was obtained from the Health Research Ethics Committee (KEPK) of Bethesda Yakkum Institute of Health Sciences (No. 058/KEPK/02.01/VI/2025), issued on June 12, 2025, and valid until June 11, 2026.

RESULT

Table 1. MMSE Score and Quality of Life Score per Domain

MMSE	n	%	Quality of Life Scores	n	%
Normal (25-30)	15	33.3	Physical domain		
			Bad	1	2.2
			Fair	12	26.7
			Good	17	37.8
Mild (18-24)	19	42.2	Psychological domain Bad		
			Fair	1	2.2
			Good	14	31.1
				15	33.3
Moderate (0-17)	11	24.4	Social domain		
			Fair	11	24.4
			Good	17	37.8
			Excellent	2	4.4
			Environmental domain		
			Fair	9	20
			Good	20	44.4
			Excellent	1	2.2
Total	45	100		30	100

Table 1 shows that the majority of older adults had mild dementia, accounting for 19 respondents (42.2%). Older adults without dementia (normal cognitive status) were not included in this study. Quality of life was subsequently assessed among older adults with dementia. The results showed that, across all quality-of-life domains, most respondents were categorized as having a good quality of life. The physical domain was categorized as good in 37.8% of respondents, while the psychological and social domains were categorized as good in 33.3% and 37.8% of respondents, respectively. The environmental domain showed the highest proportion of respondents with good quality of life (44.4%).

Table 2. Characteristics of Respondents

Characteristics	**n**	**%**
Age (years)		

Characteristics	n	%
Older adult (60-74)	19	63.3
Old (75-90)	9	30
Very Old (>90)	2	6.7
Gender		
Male	5	16.7
Female	25	83.3
Occupation		
Still working	9	30
Retirement	21	70
Marital Status		
Marriage	15	50
Divorce	9	30
Widows/widowers	6	20
Education level		
None	4	13.3
Elementary school	14	46.7
Junior high school	4	13.3
Senior high school	7	23.3
College	1	3.3
Health conditions suffered		
Hypertension	10	33.3
Heart	2	6.7
Diabetes Mellitus	1	3.3
Multipathological	16	53.3
None	1	3.3
Social activities		
Posyandu	17	56.7
Religious	9	30
Arisan	3	10
Inactive	1	3.3
Sleep quality		
Very bad	19	63.3
Bad	11	36.7

Table 2 shows that the majority of respondents were aged 60–74 years (63.3%), female (83.3%), retired (70.0%), married and living with a spouse (50.0%), had an elementary school education (46.7%), had multiple chronic conditions (53.3%), were active in Posyandu activities (56.7%), and reported very poor sleep quality (63.3%).

Table 3. The correlation between severity of dementia and quality of life

Variable	Correlation Coefficient (r_s)	p-value	Interpretation
Dementia and QoL (physical domain)	0.428	0.018	There is a significant (moderate) relationship
Dementia and QoL (psychological domain)	0.222	0.238	Not significant
Dementia and QoL (social domain)	0.209	0.267	Not significant
Dementia and QoL (environmental domain)	0.440	0.015	There is a significant (moderate) relationship

Based on Table 3, there was a significant relationship between dementia severity and quality of life in the physical domain (r_s = 0.428; p = 0.018) and the environmental domain (r_s = 0.440; p = 0.015). These findings indicate that greater dementia severity was associated with lower quality of life in the physical and environmental domains. In contrast, the relationships between dementia severity and the psychological domain (r_s = 0.222; p = 0.238) and social domain (r_s = 0.209; p = 0.267) were not statistically significant.

Based on these findings, the researchers proposed a comprehensive care model for older adults with dementia that emphasizes the physical and environmental domains, which were significantly associated with dementia severity. Considering the complexity of dementia and its impact on quality of life, there is a need to develop an innovative yet feasible care model for older adults living with their families in the community. Nurses may collaborate with physiotherapists and social workers to address domains that are significantly affected by cognitive decline. Given the care needs of older adults with dementia, a proactive service model involving home visits may be an appropriate approach for community-based care.

DISCUSSION

Dementia is characterized by cognitive impairment, as reflected by Mini-Mental State Examination (MMSE) scores ranging from 0 to 24, indicating varying degrees of cognitive decline from mild to severe. Older adults with cognitive impairment showed changes in quality of life across the physical, psychological, social, and environmental domains (Table 3). These findings are consistent with recent studies reporting that cognitive decline is significantly associated with reduced ability to perform daily activities, increased dependence, and worsening physical health conditions, all of which directly affect the physical domain of quality of life (de Vugt & Dröes, 2020; Livingston et al., 2020). In the psychological domain, older adults with dementia often experience depression, anxiety, and emotional distress resulting from declines in memory and executive function, which may reduce their perceived well-being (Scharre, 2021). Furthermore, cognitive impairment may affect the social domain, as communication difficulties and behavioral changes can reduce social interaction, increase isolation, and decrease the social support received by older adults (de Vugt & Dröes, 2020; Goh et al., 2019). In the environmental domain, cognitive limitations may affect older adults' ability to access healthcare services, utilize environmental resources effectively, and maintain a sense of safety and independence at home (Au-Yeung et al., 2024). Thus, the findings of this study support existing evidence that dementia has a multidimensional impact on the quality of life of older adults and highlight the importance of comprehensive, sustainable, and interdisciplinary interventions.

Relationship between Dementia Severity and Physical Domain Quality of Life

The results showed a significant relationship between dementia severity and the physical domain of quality of life. Older adults with mild dementia had higher physical domain scores than those with moderate to severe dementia. This finding is consistent with Farina et al. (2024), who reported that cognitive decline is closely associated with reduced ability to perform activities of daily living (ADLs) and decreased motor function, which ultimately lowers physical quality of life. Declines in orientation, memory, and attention may limit older adults' ability to move independently, maintain personal hygiene, and adhere to health-related routines. Furthermore, these findings support those of Jayakody and Arambepola (2022), who found that the physical domain is often the first aspect of quality of life to decline among older adults with cognitive impairment in South Asian communities due to limited mobility and increased dependence on caregivers.

Physical activity may serve as a potential intervention for dementia and mild cognitive impairment by improving cognitive function (Venegas-Sanabria et al., 2022). Although physical activity may not directly improve cognitive function, it has been shown to enhance physical capabilities and motivation among people living with dementia (Telenius et al., 2020). Moderate physical activity has also been associated with a lower incidence of dementia among older adults (Markku et al., 2022). Encouraging physical activity before individuals reach older age may help reduce dementia risk and improve physical functioning later in life. This preventive approach highlights the importance of early intervention in promoting healthy aging.

Relationship with Psychological and Social Domains

The absence of a significant relationship between dementia severity and the psychological and social domains suggests that emotional and social well-being may be influenced more by external support than by cognitive function alone. Previous studies conducted during the COVID-19 pandemic showed that family support and spirituality played a greater role in maintaining the psychological well-being of older adults than medical or cognitive factors. This suggests that older adults who receive emotional support, feel valued, and remain involved in social activities may maintain a relatively good quality of life in the psychological and social domains despite cognitive decline (Sinaga et al., 2022).

Relationship with the Environmental Domain

The significant relationship between dementia severity and the environmental domain indicates that older adults with better cognitive function tend to be more adaptable, feel safer, and be more satisfied with their living environment. These findings are consistent with Da et al.(2025), who reported that environmental comfort, access to healthcare facilities, and community support are important determinants of quality of life among older adults with dementia. In the context of Yogyakarta, community support, Posyandu programs for older adults, and neighborhood-based social activities may also contribute to more positive perceptions of the living environment.

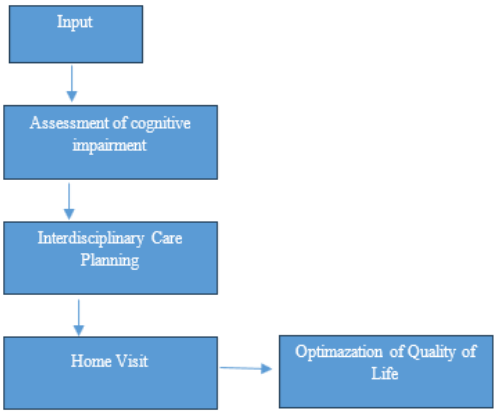
Interdisciplinary Home Visit Model

In healthcare settings, professionals from various disciplines work collaboratively to address patients' physical, psychological, and social needs. Interdisciplinary teams are more than a collection of specialists providing separate services; they work together toward shared goals and complement one another's expertise. Physicians, nurses, therapists, laboratory professionals, pharmacists, physiotherapists, and nutritionists collaborate to support optimal patient outcomes (Bosch & Mansell, 2015; VR Intening, Y Permina, 2022). Effective dementia management requires an interdisciplinary approach that extends beyond clinical professionals to include social workers and policy stakeholders. Their involvement is essential for strengthening prevention efforts, increasing public awareness, and supporting coordinated responses to the growing burden of dementia.

Interdisciplinary teams emphasize collaboration. Therefore, recognizing the contributions and expertise of each team member is essential. Such recognition helps team members feel valued, encourages participation, and promotes meaningful contributions. In addition, interdisciplinary teams should encourage patients to participate in decision-making processes to improve the quality of care. These teams provide patient-centered care by jointly developing, discussing, and implementing coordinated care plans with the active involvement of patients and their families (Bendowska & Baum, 2023; Warren & Warren, 2023).

Research conducted by Kartika et al.(2019) showed that home visits are one strategy used by healthcare professionals to improve access to healthcare services for older adults. Many older adults experience mobility limitations that make it difficult to access healthcare facilities. In addition, family support may be constrained by caregivers' work and daily responsibilities. Home visits improve service accessibility by reducing the need for travel and facilitating care delivery within the home. In areas with limited healthcare personnel, task shifting to social workers may represent a cost-effective strategy for enhancing dementia care (Alam et al., 2021).

This study was limited to older adults living in Yogyakarta, which restricts the generalizability of the findings, and the sample size was relatively small. Furthermore, the proposed interdisciplinary home visit model still requires the development of technical implementation guidelines. Based on the findings that the physical and environmental domains of quality of life were significantly associated with cognitive impairment, this study provides preliminary evidence for the development of an interdisciplinary home visit approach. The proposed model emphasizes coordinated roles among nurses, physiotherapists, and social workers in addressing mobility limitations, environmental safety, and caregiver support. The flowchart presented below illustrates the initial framework of the proposed model, which remains conceptual and requires further validation through future research.



Scheme 1. Interdisciplinary Home Visit Model (Preliminary)

CONCLUSION

There was a significant relationship between dementia severity and quality of life in the physical and environmental domains among older adults. These findings indicate that greater dementia severity was associated with lower quality of life in both domains. Based on these findings, an interdisciplinary home visit model was proposed. Given the complexity of dementia care, collaboration among healthcare professionals, social workers, and policymakers is needed to implement home visit models aimed at optimizing the quality of life of older adults with dementia.

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