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The Relationship Between Family Support and the Level of Independence of the Elderly in Performing Daily Activities (BADL and IADL) in the Cakung Health Center Area, East Jakarta

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HIGHLIGHTS

- The most important that have found in a research
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The increasing elderly population has led to a rise in various health problems, particularly chronic diseases that can affect their independence in performing daily activities. Limitations in carrying out these activities necessitate family support, as the family serves as the primary support system for the elderly. Family support plays a vital role in enhancing the elderly's motivation, self-esteem, and functional ability in daily life. This study aims to examine the relationship between family support and the level of independence among elderly individuals in conducting daily activities within the working area of the Cakung Health Center, East Jakarta. This is a quantitative study with a cross-sectional design using a purposive sampling technique. A total of 62 elderly individuals with chronic diseases were selected as respondents. Data were analyzed using the Chi-Square test. The results showed a significant relationship between family support and the level of independence in performing both basic (BADL) and instrumental (IADL) activities of daily living, with a p-value of 0.000 ($p < 0.05$). These findings highlight the importance of family empowerment in assisting elderly individuals with physical limitations, enabling them to remain active according to their capabilities.

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1. INTRODUCTION

Indonesia is experiencing a demographic shift marked by a steadily increasing elderly population due to improved life expectancy, which now averages 73.6 years (Central Bureau of Statistics, 2022). This demographic trend mirrors global projections, where by 2030, one in six people worldwide is expected to be aged 60 years or older

(BPS, 2022). While this reflects progress in public health, it also brings a significant rise in age-related health issues, particularly chronic diseases, which can reduce the elderly's independence and quality of life (Mujiadi & Rachmah, 2022).

The aging process is accompanied by various physiological, psychological, and socioeconomic changes, with degenerative diseases such as hypertension, stroke, diabetes mellitus, heart disease, and arthritis commonly reported among older adults (Baco & Rantiasa, 2023). These chronic conditions often result in limitations in performing essential daily activities. According to Daryanti (2020), these activities include eating, grooming, mobility, and toileting—categorized as Basic Activities of Daily Living (BADL). Instrumental Activities of Daily Living (IADL), which involve more complex tasks such as managing finances, preparing meals, and using transportation, are equally essential in assessing elderly independence.

Data from Riskesdas (2018) reveal that while 74.7% of the elderly are independent, 22.2% experience mild dependence. Chronic conditions like joint pain, hypertension, and diabetes are among the top contributors to decreased functional autonomy. These limitations often necessitate the involvement of family members, who act as the primary support system for the elderly. Effective family support has been shown to enhance emotional well-being, self-esteem, and functional capacity, thereby improving the elderly's overall quality of life (Martina et al., 2023).

Previous studies (e.g., Antara et al., 2020; Saranga et al., 2022) have identified a positive correlation between family support and elderly independence. However, most existing studies have been conducted in rural or semi-urban areas, with limited exploration in densely populated urban settings such as East Jakarta. Furthermore, many studies focus only on one dimension of daily activity—either BADL or IADL—without analyzing both comprehensively. This creates a gap in understanding the full scope of how family support influences multiple aspects of daily functioning among elderly individuals with chronic illness in urban health service areas.

Therefore, this study aims to examine the relationship between family support and the level of independence of the elderly in performing both BADL and IADL within the working area of the Cakung Health Center, East Jakarta. Addressing this gap is essential for informing targeted interventions and strengthening community-based elderly care strategies in urban populations.

2. MATERIALS AND METHOD

This study employed a quantitative approach with a cross-sectional design and was conducted in the working area of the Cakung District Health Center, East Jakarta. The sample consisted of 62 elderly individuals selected through a non-probability sampling method using purposive sampling. Inclusion criteria were elderly aged 60 years or above, living with family members, diagnosed with at least one chronic disease, and not bedridden.

The independent variables included demographic characteristics (age, gender, education, occupation) and family support, while the dependent variable was the level of independence in performing daily activities, including Basic Activities of Daily Living (BADL) and Instrumental Activities of Daily Living (IADL). Data collection was conducted using structured questionnaires filled out by respondents with assistance from health officers as needed. Family support was measured using a modified version of the Medical Outcomes Study (MOS) Social Support Survey comprising 15 items. BADL was assessed using a modified Katz Index with 6 items, while IADL was measured using a modified Lawton Scale with 8 items. Scoring for BADL ranged from 0 to 6, with scores of 6 indicating full independence, 4–5 partial independence, and ≤ 3 indicating dependence. For IADL, scores ranged from 0 to 8, where scores ≥ 6 represented independence and ≤ 5 indicated dependence. Family support was categorized into high and low based on the median score.

Data analysis was performed in two stages: univariate analysis was used to describe respondent characteristics, family support, and levels of independence, while bivariate analysis using the Chi-Square test was conducted to assess the relationship between family support and independence in performing BADL and IADL. Statistical significance was determined at a p-value of <0.05. This study was approved by the Health Research Ethics Committee of the Jakarta III Ministry of Health Polytechnic under ethical clearance number LB.02.02/F.XIX.21/3915/2024.

3. RESULT

Table 1 Frequency Distribution of Elderly Characteristics by Age, Gender, Education Level, and Occupation in the Cakung Health Center Area, East Jakarta.

Characteristics of the Elderly	F	%
Elderly Age		
60-69 years (Young elderly)	47	75.8%
≥ 70 years (High risk elderly)	15	24.2%
Gender		
Man	30	48.4%
Woman	32	51.6%
Education		
Low education (elementary, middle school)	40	64.5%
Higher education (high school, college)	22	35.5%
Work		
Doesn't work	53	85.5%
Work	9	14.5%

Table 1 shows that the majority of respondents were categorized as young elderly (60–69 years; 75.8%), predominantly female (51.6%), with low educational attainment (64.5%), and most were unemployed (85.5%). These sociodemographic characteristics are relevant because they influence the elderly's functional capacity and their need for support. Younger elderly tend to have better physical function compared to older counterparts, which may affect their level of independence in daily living activities.

Table 2 Overview of Family Support for the Elderly in the Cakung Health Center Area East Jakarta

Family Support	F	%
Lack of Support	14	22.6%
Good Support	48	77.4%

Table 2 illustrates the frequency distribution of family support for the elderly, showing that the majority (77.4%) received good family support. In contrast, only 14 respondents (22.6%) indicated a lack of family support. This suggests that most participants in the study experienced positive involvement and encouragement from their families.

Table 3 Overview of the Level of Independence of the Elderly in Carrying Out Basic Daily Activities (BADL) and Instrumental (IADL) in the Cakung Health Center Area East Jakarta

Variables	F	%
BADL		
Dependence	10	16.1%
Independent	52	83.9%
IADL		
Dependence	12	19.4%
Independent	50	80.6%

Table 3 presents the distribution of elderly independence, showing that the majority (83.9%) are independent in carrying out basic activities of daily living (BADL), and most (80.6%) are also independent in performing instrumental activities of daily living (IADL).

Table 4 Relationship between Family Support and the Level of Independence of the Elderly in Carrying Out Basic Daily Activities (BADL) in the Cakung Health Center Area, East Jakarta

Family Support	BADL		Total (%)	pValue	OR (95% CI)
	Dependence F (%)	Independent F (%)			
Not enough	8 (57.1%)	6 (42.9%)	14 (100%)	0.000	30,667 (5,236-179,621)
Good	2 (4.2%)	46 (95.8%)	48 (100%)		

Table 4 illustrates a clear relationship between family support and the independence of the elderly in performing basic activities of daily living (BADL). Among elderly respondents with good family support, 95.8% were found to be independent, whereas only 42.9% of those with less family support were independent. The chi-square test yielded a p-value of 0.000, indicating a statistically significant association between the level of family support and the independence of elderly individuals in BADL ($p < 0.05$).

Table 5. Relationship between Family Support and the Level of Independence of the Elderly in Performing Instrumental Daily Activities (IADL) in the Cakung Health Center Area, East Jakarta

Family Support	IADL		Total (%)	pValue	OR (95% CI)
	Dependence F (%)	Independent F (%)			
Not enough	8 (57.1%)	6 (42.9%)	6 (42.9%)	0.000	14,667 (3,364-63,945)
Good	4 (8.3%)	44 (91.7%)	44 (91.7%)		

Table 5 illustrates that elderly individuals with good family support demonstrate a significantly higher proportion of independence in carrying out instrumental activities of daily living (IADL), reaching 91.7%, compared to only 42.9% among those with less family support. The results of the chi-square test indicate a significant relationship between family support and independence in IADL ($p = 0.000$). The odds ratio (OR) analysis further shows that elderly individuals with less family support are 14.667 times more likely to experience dependence in instrumental daily activities compared to those receiving good support.

4. DISCUSSION

The findings of this study provide a comprehensive understanding of the sociodemographic factors and the critical role of family support in shaping the independence of the elderly, particularly in performing both Basic Activities of Daily Living (BADL) and Instrumental Activities of Daily Living (IADL). These results align with prior research, reinforcing the notion that family support remains a significant determinant of elderly well-being and autonomy.

Low educational attainment, as observed among many respondents, is commonly associated with limited health literacy, which may hinder the ability to independently manage chronic conditions. Djala & Gugu (2021) emphasize that low

education is prevalent among older adults, particularly in suburban or marginalized areas. Coupled with the predominance of female respondents—consistent with demographic trends indicating higher life expectancy among women in Indonesia (Juwinda & Febriana, 2022)—these baseline characteristics provide important context for understanding variations in independence levels among the elderly.

The high number of unemployed respondents reflects the typical retirement age in Indonesia, generally between 60 and 65 years (Subekti et al., 2022). This status often influences both physical activity levels and psychological well-being, as older adults adapt to post-retirement life. These characteristics further highlight the need for supportive environments that facilitate healthy aging and functional independence.

A notable finding in this study is the high proportion of elderly individuals reporting good family support (77.4%), which is consistent with the results of Renda et al. (2023) and Astika & Lestari (2023), who reported that elderly individuals in their studies frequently received substantial support from their families. Family support plays a pivotal role in enhancing elderly independence, as it contributes not only to physical assistance but also to emotional and psychological stability. According to Kusumawaty et al. (2023), such support includes providing a safe and comfortable home, attending to the elderly's concerns, and fostering emotional connections—factors that can significantly boost motivation and enthusiasm in older adults to maintain their autonomy.

In examining the components of BADL, this study revealed that the highest level of independence was found in mobility, while the dressing component posed greater challenges. This may be attributed to difficulties using clothing such as shirts with buttons or restrictive collars, which are often problematic for elderly individuals with reduced fine motor skills or joint flexibility. These observations are in line with those of Antara et al. (2020) and Martina et al. (2023), who found that while basic self-care is generally manageable for many elderly individuals, certain tasks require greater physical adaptability. Adaptation strategies, including the use of assistive devices and the simplification of routines, are critical in maintaining this independence (Meiner & Yeager, 2019).

Similarly, the data related to IADL showed high levels of independence across most areas. However, financial management stood out as a component where many elderly individuals struggled. This could be related to cognitive changes associated with aging, which impact decision-making and memory, skills essential for handling finances effectively (Juwinda & Febriana, 2022). Nevertheless, when environmental and social support systems are in place, elderly individuals are more likely to remain independent in instrumental tasks (Astika & Lestari, 2023). Meiner & Yeager (2019) also note that physical and cognitive health, active social engagement, and modifications in the living environment can support autonomy in complex tasks such as cooking, cleaning, and shopping.

The statistical analysis provided further evidence of the significant influence of family support. In Table 4, a clear correlation was established between family support and independence in BADL. Among those with good family support, 95.8% were found to be independent, compared to only 42.9% of those with limited support. The chi-square test yielded a p-value of 0.000, indicating a highly significant relationship. More strikingly, the odds ratio (OR) analysis revealed that elderly individuals with less family support were 30.667 times more likely to be dependent in BADL, underscoring the protective role of familial involvement.

Table 5 further supports these findings in the context of IADL. Elderly respondents with good family support had a 91.7% independence rate, while only 42.9% of those with less support remained independent. The p-value of 0.000 confirmed a statistically significant association, and the OR value indicated that elderly individuals with low family support were 14.667 times more likely to be dependent. These findings reinforce the evidence presented by Saranga et al. (2022) and Kusumawaty et al. (2023),

who highlight the instrumental role of family support in promoting functional autonomy and self-reliance in older adults.

Family members not only provide physical assistance but also serve as vital emotional anchors that foster confidence and resilience. Baco & Rantiasa (2023) emphasize that good family support contributes to both physical health and psychological well-being, ultimately leading to a better quality of life. Motivation and optimism, often fostered through emotional bonding, are essential for the elderly to maintain their independence, particularly in carrying out more complex IADL tasks. Khoiriyah (2020) also confirms that family support is significantly associated with both BADL and IADL performance.

Sustaining independence among the elderly requires a multifaceted approach. According to Meiner & Yeager (2019), the implementation of safety modifications in the home, such as grab bars or user-friendly appliances, combined with family assistance, greatly enhances elderly self-sufficiency. Andriyani (2020) also stresses the importance of active family involvement in encouraging participation in social activities, joint decision-making, and self-care routines.

Given the findings of this study, it is imperative to incorporate family-centered strategies in community health promotion programs. Structured interventions that empower family members through health education, caregiving skills, and emotional support can create a sustainable support system for the elderly. Programs that integrate these elements are likely to have a long-term impact not only on functional independence but also on the holistic well-being of Indonesia's aging population.

These findings have important implications for nursing practice and public health policy, suggesting that empowering families through targeted educational interventions may be a key strategy in promoting elderly independence. However, this study has several limitations. The sample was drawn from a limited geographic area and may not represent the broader elderly population in different regions or cultural contexts. Additionally, the use of a cross-sectional design limits the ability to infer causality between family support and functional independence. Future research employing longitudinal or qualitative methods is recommended to explore the dynamics of family support and elderly independence more comprehensively.

From a theoretical perspective, this study reinforces the relevance of social support frameworks and the biopsychosocial model in understanding factors that influence aging-related functional outcomes. It highlights the critical role of psychosocial elements, particularly family dynamics, in maintaining elderly independence—an area that remains underexplored in local contexts. Furthermore, given Indonesia's collectivist culture where familial caregiving is deeply rooted, family-centered strategies are both culturally congruent and practically effective.

5. CONCLUSION

The results of this study have demonstrated a significant relationship between family support and the level of independence among the elderly in performing both basic (BADL) and instrumental (IADL) daily activities. Good family support fosters self-confidence and motivation in elderly individuals, enabling them to remain functionally independent. The presence of family members who provide physical assistance, emotional encouragement, and help with daily routines contributes meaningfully to maintaining the elderly's autonomy.

In light of these findings, it is recommended that community health centers (Puskesmas) play an active role in promoting elderly independence through family-oriented health education programs. These programs should be aimed at increasing awareness among caregivers and family members about the importance of their involvement in supporting elderly individuals, including providing guidance on

environmental modifications, physical activity encouragement, and monitoring for signs of cognitive or physical decline.

Additionally, family empowerment interventions should be integrated into elderly health promotion strategies by local health services and stakeholders. These interventions may include caregiver training, peer support groups, and regular home visits. Such initiatives are expected to create a supportive environment that enables older adults to maintain their daily functioning and improve their overall quality of life.

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