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Research Article

Family Motivation as a Determinant of Independence in Elderly Care for Non-Communicable Diseases in Gorontalo

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ABSTRACT

Family motivation is an important factor influencing independence in elderly care, especially among those with non-communicable diseases (NCDs). This study aimed to analyze the relationship between family motivation and independence in caring for elderly NCD patients. A cross-sectional study was conducted in March 2025 at the Tolangohula Health Center, Gorontalo Regency, Indonesia. A total of 89 families caring for elderly NCD patients were recruited using total sampling. Data were collected through structured questionnaires covering demographics, family motivation, and family independence. Validity and reliability tests confirmed that all instruments demonstrated strong internal consistency and were suitable for use in the study. Data were analyzed using the Chi-Square test with a significance level of $p < 0.05$. The results showed that most families had strong motivation (60.7%) and high independence (Level IV, 60.7%). Families with strong motivation predominantly achieved Level IV independence (85.1%), while those with moderate motivation tended to fall within Levels III and II. The Chi-Square analysis revealed a significant relationship between family motivation and family independence ($p < 0.001$). These findings indicate that stronger family motivation is significantly associated with higher independence in elderly NCD care. Strengthening family education and empowerment programs within community nursing services is recommended to enhance caregiving capacity and improve health outcomes among elderly individuals with chronic diseases.

Keywords: *family motivation, family independence, elderly, non-communicable diseases*

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INTRODUCTION

One of the major challenges in current health development is the epidemiological transition from infectious to non-communicable diseases (NCDs), which require long-term care and management (Nawata, 2023). Hypertension and diabetes mellitus are among the most prevalent NCDs and remain leading causes of morbidity and mortality (Patel et al., 2022). The elderly population is particularly vulnerable to these conditions in Indonesia, often experiencing complications due to late detection and inadequate support systems (Madyaningrum, 2023).

In Gorontalo Province, hypertension and diabetes are consistently reported as the most common health problems among the elderly (Dinas Kesehatan Provinsi Gorontalo, 2024). Data from the Tolangohula Health Center in 2024 recorded 506 elderly with hypertension, 112 with diabetes mellitus, and 89 with both conditions. Preliminary surveys in 2025 further revealed that many families lacked awareness of dietary management, treatment adherence, and caregiving responsibilities, reflecting low family independence in elderly care (Pomalingo et al., 2023).

Previous studies have highlighted the importance of family support in managing chronic illnesses in Indonesia, where family involvement plays a central role in patient care (Kementerian Kesehatan Republik Indonesia, 2018). However, limited research has specifically examined how family motivation contributes to caregiving independence, particularly in rural settings. Existing evidence indicates that inadequate disease management may lead to complications during treatment (Alkatheeri & Alseddeeqi, 2022), while family caregivers often face educational and preparedness challenges in providing home-based care (Keykha et al., 2022). Furthermore, family health education has been shown to improve caregiving practices (Widjianingrum & Wulansari, 2022), and family-centered self-care approaches can enhance independence in managing hypertension among the elderly (Febriyona & Mayulu, 2023). These findings underscore the critical role of family involvement in ensuring consistent care, preventing complications, and improving the quality of life of elderly patients with NCDs.

Therefore, this study aims to examine the relationship between family motivation and independence in caring for elderly individuals with NCDs at the Tolangohula Health Center, Gorontalo Regency.

METHOD

Study Design and Setting

This study employed a quantitative analytic design with a cross-sectional approach. The research was conducted in March 2025 at the Tolangohula Health Center, Gorontalo Regency, Indonesia.

Population and Sample

The study population consisted of families caring for elderly members diagnosed with non-communicable diseases (NCDs). A total of 89 families were included using a total sampling technique. This approach was chosen because the number of eligible families was relatively small, and including the entire accessible population minimized sampling error and increased the generalizability of findings within the study area.

Variables and Operational Definitions

The study examined two variables: Family Motivation (independent variable) and Family Independence (dependent variable). Operational definitions, measurement instruments, and criteria are summarized in Table 1.

Table 1. Operational Definitions of Research Variables

No	Variable	Operational Definition	Indicators/ Parameters	Instrument	Scale	Measurement Results
1	Independent Variable: Family Motivation	The provision of support, stimulation, encouragement, and reinforcement within the family based on **Maslow's hierarchy of needs** (physiological, safety, social, esteem, self-actualizatio).	5 indicators, 14 items	Questionnaire (Likert scale 1–4: Never–Always)	Ordinal	Strong (51–75%) Moderate (26–50%) - Weak (<25%)
2	Dependent Variable: Family Independence in Elderly Care	The family's ability to provide independent care for elderly members without external help, aimed at maintaining health.	4 indicators, 20 items: (1) Receiving health services (2) Identifying problems and utilizing services (3) Performing basic care (4) Engaging in preventive & promotive actions	Questionnaire (Likert scale 1–4: Never–Always)	Ordinal	Level I (<25%) Level II (25–53%) - Level III (53–81%) - Level IV (>81%)

Instrument Development and Validity Testing

The instruments were developed based on theoretical frameworks and prior studies, then refined through expert judgment (two nursing lecturers and one public health expert). A pilot test was conducted on 15 families at another health center to assess clarity and item performance.

Instrument validity was tested using item–total correlation (Pearson correlation). The degree of freedom was calculated as $n–2 = 15–2 = 13$, with r-table = 0.551 at a significance level of 5% ($\alpha = 0.05$). Items were deemed valid if r-count > 0.551.

Table 2. Validity Test Results for Family Motivation Questionnaire

Item No.	r-count	r-table (0.551)	Remarks
1	0.593	0.551	Valid
2	0.691	0.551	Valid
3	0.691	0.551	Valid
4	0.716	0.551	Valid
5	0.629	0.551	Valid
6	0.854	0.551	Valid
7	0.854	0.551	Valid
8	0.542	0.551	Not valid
9	0.593	0.551	Valid
10	0.578	0.551	Valid
11	0.629	0.551	Valid
12	0.629	0.551	Valid
13	0.539	0.551	Not valid
14	0.641	0.551	Valid

Out of 14 items, 12 met the validity criteria and were retained for the study, while 2 items (no. 8 and 13) were excluded.

Data Collection Instruments

Data were collected using structured questionnaires administered directly to respondents after obtaining informed consent. Enumerators assisted participants to ensure completeness and accuracy of responses.

Data Analysis

Data analysis included descriptive statistics for demographic characteristics, with continuous variables presented as means or medians, and categorical variables as frequencies and percentages. The Chi Square test was used to analyze the relationship between family motivation and family independence, with a significance level set at $p < 0.05$.

Study Limitation

This study employed a cross-sectional design, which limits the ability to establish causal relationships between variables. In addition, the use of self-reported questionnaires may introduce response bias due to subjective perceptions of participants.

Ethical approval for this research was granted by the Health Research Ethics Committee of the Faculty of Health Sciences, Universitas Muhammadiyah Gorontalo (Approval No. **067/KEPK-FIKES/V1/2025)**. The study was declared ethically feasible according to the seven WHO 2011 ethical standards (1) Social Value, (2) Scientific Validity, (3) Fair Subject Selection, (4) Risk–Benefit Assessment, (5) Independent Review, (6) Informed Consent, and (7) Respect for Enrolled Subjects and in compliance with the CIOMS 2016 Guidelines. All respondents provided written informed consent after receiving a clear explanation of the study objectives and procedures. Participant anonymity, privacy, and data confidentiality were strictly maintained throughout the research process.

RESULT

A total of 89 families caring for elderly members with NCDs participated in the study.

Table 3. Characteristics of Respondents and Distribution of Family Motivation and Independence Levels

Variables	Category	Frequency (n)	Percentage (%)
Age	20–45 years	62	69.7
	>45 years	27	30.3
Gender	Male	25	28.1
	Female	64	71.9
Education Level	Primary School	25	28.1
	Junior High School	32	36.0
	Senior High School	28	31.5
	Master's Degree	4	4.5
Family Motivation	Strong	54	60.7
	Moderate	25	28.1
	Weak	10	11.2
Family Independence Level	Level II	14	15.7
	Level III	21	23.6
	Level IV	54	60.7
Total Respondents		**89**	**100.0**

Chi-square test showed a significant association between family motivation and independence ($p < 0.001$). The association strength measured with Cramer's $V = 0.482$, indicating a moderate to strong relationship.

Table 4. Questionnaire Items for Motivation and Independence Variables

Variable	Item Statement (Example)	Nevern (%)	Sometimesn (%)	Oftenn (%)	Alwaysn (%)
Family Motivation	Providing nutritious food for elderly family members	2 (2.2)	8 (9.0)	34 (38.2)	45 (50.6)
	Encouraging elderly to take medication regularly	1 (1.1)	6 (6.7)	40 (44.9)	42 (47.2)
	Maintaining emotional support within the family	0 (0.0)	7 (7.9)	36 (40.4)	46 (51.7)

Family Independence	Bringing elderly to routine health checks	4 (4.5)	9 (10.1)	28 (31.5)	48 (53.9)
	Recognizing early signs of health problems	3 (3.4)	12 (13.5)	33 (37.1)	41 (46.0)
	Performing basic nursing care independently	2 (2.2)	11 (12.4)	37 (41.6)	39 (43.8)

DISCUSSION

This study revealed that most caregivers were women (71.9%), reflecting gendered cultural expectations in Indonesian society, where women predominantly assume caregiving roles (Duran-Kiraç et al., 2023). Fukuda et al. (2022) similarly reported that caregiving in Japan is largely performed by female family members. Likewise, Choi et al. (2024) found that caregiving responsibilities in South Korea are strongly associated with women.

The majority of families (60.7%) demonstrated strong motivation, which aligns with Maslow's theory suggesting that motivation drives caregiving commitment. Zarzycki et al. (2023) found that strong familial motivation is associated with better engagement in caregiving roles. In addition, Berkel et al. (2021) demonstrated that motivation enhances caregiver participation and adherence to health-related interventions.

Family independence was also high, with 60.7% reaching Level IV, suggesting effective exposure to health education and collaboration with healthcare providers. Rostaminasab et al. (2023) reported that family-centered empowerment significantly improves caregiving capacity and health outcomes. Similarly, Brunozi et al. (2019) emphasized the importance of professional support and structured interventions in strengthening family caregiving independence.

Despite strong motivation, some families remained at lower independence levels (Levels II–III, 39.3%). Possible barriers include limited socioeconomic resources, lower educational attainment, and cultural reliance on healthcare workers rather than autonomous caregiving. White et al. (2022) found that caregivers often experience difficulties in achieving self-efficacy in complex care situations. Furthermore, Patel et al. (2022) reported that low socioeconomic status and limited knowledge contribute to poor management of chronic diseases among the elderly.

The observed association between family motivation and family independence indicates a moderate-to-strong relationship, supporting the hypothesis that psychosocial motivation significantly enhances caregiving competence. Wahyudi and Aprilianawati (2022) found that family support and motivation are associated with better blood pressure control among elderly patients. In addition, Nasresabetghadam et al. (2021) demonstrated that self-care theory–based interventions improve independence and self-care behaviors in patients with chronic conditions.

CONCLUSION

This study demonstrated a significant relationship between family motivation and independence in caring for elderly individuals with non-communicable diseases. Stronger family motivation was associated with higher caregiving independence, particularly in decision-making, preventive actions, and collaboration with healthcare providers.

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