



The Role of Family in Pain Management among Patients with Chronic Illness

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Article History

Submitted: 01-04-2026

Revised: 18-04-2026

Accepted: 23-04-2026

doi.org/10.58545/jkki.v6i1.695

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Abstract

Chronic diseases are major health problems often accompanied by persistent pain that can reduce patients' quality of life. Pain management is not only dependent on medical therapy but is also influenced by the role of the family as the primary support system. The purpose of this study was to determine the relationship between family role and pain management among patients with chronic illness. This study used a quantitative, cross-sectional design. The sample consisted of 35 respondents selected using total sampling in Boyolangu Village, Tulungagung Regency. Data were collected using a family role questionnaire, and pain level was measured using the Numeric Rating Scale (NRS). The study was conducted in January 2026. Data analysis was performed using univariate and bivariate analysis with the Spearman Rank test. The results showed that most respondents had a good family role (57.1%). The majority of respondents (48.6%) experienced moderate pain. Bivariate analysis indicated a significant relationship between family role and pain level ($p = 0.002$; $p < 0.05$). The correlation coefficient ($r = -0.45$) showed a moderate negative relationship, meaning that better family role was associated with lower pain levels. In conclusion, there is a significant relationship between family role and pain management among patients with chronic illness; therefore, healthcare providers are encouraged to enhance family involvement in pain management to improve patients' quality of life.

Keywords

Family role, Pain management, Chronic illness

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How to cite:

Audilla, A., Farida, Nurhidayati, & Surtini. (2026). The Role of Family in Pain Management among Patients with Chronic Illness. *Jurnal Kesehatan Komunitas Indonesia*, 6(1), 54-64. <https://doi.org/10.58545/jkki.v6i1.695>

1. BACKGROUND

Chronic diseases represent a major global health challenge and constitute the leading cause of mortality and disability worldwide. Conditions such as diabetes mellitus, cardiovascular disease, cancer, and chronic obstructive pulmonary disease

require long-term management and are frequently associated with chronic pain. Chronic pain is defined as pain that persists for more than three months and has a substantial impact on an individual's quality of life. According to the World Health Organization, non-communicable

diseases account for more than 70% of global deaths, with a large proportion of affected individuals experiencing chronic pain (World Health Organization, 2020). Inadequate pain management may lead to impaired daily functioning and an increased economic burden (Treede et al., 2018).

At the theoretical level, pain in individuals with chronic diseases is recognized as a complex and multidimensional experience influenced by biological, psychological, and social factors, as described in the biopsychosocial model (Isnaini & Lestari, 2018). The International Association for the Study of Pain defines pain as an unpleasant sensory and emotional experience (IASP, 2021). Psychological factors such as anxiety and depression, as well as insufficient social support, have been shown to exacerbate pain perception (Li et al., 2016). This indicates that effective pain management requires a comprehensive approach that addresses not only physical but also psychosocial dimensions.

In practice, pain management extends beyond pharmacological therapy and includes non-pharmacological interventions such as relaxation techniques, distraction, education, and social support. Evidence suggests that

combining these approaches is more effective than relying on a single modality (Handayani, 2020; Herawati et al., 2017). Among these factors, social support, particularly from family, plays a critical role in improving pain management outcomes (Taylor, 2018; Tatali et al., 2018). Families provide emotional, instrumental, and informational support, which can enhance treatment adherence, reduce pain perception, and ultimately improve patients' quality of life (Olowookere et al., 2016).

At the national level, particularly in Indonesia, the increasing prevalence of chronic diseases poses significant challenges for healthcare systems and families. The Ministry of Health of the Republic of Indonesia highlights the importance of strengthening family involvement in the care of patients with chronic conditions through continuous education and empowerment (Kementerian Kesehatan RI, 2021). However, despite this emphasis, many families still lack adequate knowledge and skills to manage pain in patients with chronic diseases effectively. Limited understanding of pain management techniques, appropriate medication use, and strategies for providing psychological support remains a substantial barrier to

optimal care. Additionally, the economic and psychological burdens families experience may further affect the quality of the support they receive.

Chronic disease management relies not only on the intervention of healthcare professionals but is also greatly influenced by the involvement of the family as the primary caregiver at home. Families play a strategic role in supporting patient adherence to medication, dietary management, physical activity, and routine check-ups. However, in practice, not all families can fulfill this role optimally due to limited knowledge, care burden, and socioeconomic factors. This has the potential to lead to low therapy adherence, increased complications, and high rehospitalization rates.

Furthermore, it is necessary to examine how family contributions influence the success of chronic disease management within healthcare services, as a basis for developing family-centered care interventions and for providing practical recommendations for healthcare professionals to increase family involvement as part of the care team.

2. METHODS

This study employed a quantitative research design with a cross-sectional

approach, in which all variables were measured at a single point in time to examine the relationship between family roles and pain management among patients with chronic diseases (Sugiyono, 2019).

The study was conducted at Boyolangu Village, Tulungagung, East Java, in January 2026. The study population consisted of all patients with chronic diseases receiving treatment at the study site. The sampling technique used was total sampling, whereby all patients who met the inclusion criteria during the study period were recruited as respondents. A total of 35 respondents participated in this study.

The inclusion criteria were patients diagnosed with a chronic disease for at least three months, aged ≥ 18 years, able to communicate effectively, and willing to participate in the study. Exclusion criteria included patients unable to participate due to impaired consciousness or critical conditions.

The independent variable in this study was the family's role, while the dependent variable was the level of pain among patients with chronic diseases. Family role was defined as support provided by family members, including emotional, instrumental, informational, and appraisal support. It was measured

using a structured questionnaire categorized into good, moderate, and poor based on predetermined cut-off scores.

Data were collected using a self-administered questionnaire under the researcher’s supervision. Prior to data collection, the researcher provided instructions for completing the questionnaire and obtained informed consent from the participants.

Pain intensity was measured using the Numeric Rating Scale (NRS), ranging from 0 to 10, and categorized as mild (1–3), moderate (4–6), and severe (7–10) (Hawker et al., 2011). The instruments used included the Family Role Questionnaire and the NRS, both widely used and validated.

Data analysis was conducted using univariate and bivariate methods. Univariate analysis described the distribution of respondent characteristics and study variables. In contrast, bivariate analysis examined the relationship between family role and pain level using the Spearman Rank test, with a significance level of $p < 0.05$.

This study adhered to ethical principles, including confidentiality, anonymity, and voluntary participation. Ethical clearance was obtained from the Health Research Ethics Committee of STIKes Hutama Abdi Husada (No. 17/STIKesHAH/EC/I/2026).

3. RESULTS

Table I. Respondent characteristics (n = 35)

Characteristics	Frequency (n)	Percentage (%)
Age (year)		
26–45	7	20.0
46–60	18	51.4
>60	10	28.6
Gender		
Male	15	42.9
Female	20	57.1
Types of Disease		
Diabetes Mellitus	14	40.0
Hypertension	11	31.4
Other	10	28.6

Table 1 shows that the majority of respondents were aged 46–60 years, totaling 18 individuals (51.4%), followed by those aged >60 years with 10 individuals

(28.6%), and those aged 26–45 years with 7 individuals (20.0%). Based on gender, most respondents were female, accounting for 20 individuals (57.1%), while males accounted

for 15 individuals (42.9%). In terms of disease type, the majority of respondents had diabetes mellitus, with 14 individuals

(40.0%), followed by hypertension with 11 individuals (31.4%), and other diseases with 10 individuals (28.6%).

Table 2. Family Role in Patients with Chronic Illness (n = 35)

Family role	Frequency (n)	Percentage (%)
Good	20	57.1
Sufficient	10	28.6
Less	5	14.3

Table 2 shows the distribution of family roles in pain management shows that most respondents have family roles in the good category, namely 20 people

(57.1%), the sufficient category is 10 people (28.6%), and the less category is 5 people (14.3%).

Table 3. Pain Level in Patients With Chronic Illness (n = 35)

Pain Level	Frequency (n)	Percentage (%)
Mild	10	28.6
Moderate	17	48.6
Severe	8	22.9

Table 3 shows the level of pain in respondents was measured using the NRS scale. The results showed that most respondents experienced moderate pain,

totaling 17 people (48.6%), followed by mild pain in 10 people (28.6%), and severe pain in 8 people (22.9%).

Table 4. Analysis of the Relationship Between Family Roles (n = 35)

Variable	r	p-value	Description
Family Role vs Pain Level	-0.45	0.002	Significant

Table 3 shows the Spearman Rank test that a p-value of 0.002 ($p < 0.05$), which means there is a significant relationship between family role and pain level in patients with chronic diseases. The correlation coefficient (r) = -0.45 indicates

a relationship of moderate strength and a negative direction, which means that the better the family role, the lower the pain level experienced by the patient tends to be.

Table 5. Crosstabulation of Family Roles with Pain Level (n = 35)

Family role	Mild Pain n (%)	Moderate Pain n (%)	Severe Pain n (%)	Total
Good	8 (22.9)	10 (28.6)	2 (5.7)	20 (57.1)
Sufficient	2 (5.7)	5 (14.3)	3 (8.6)	10 (28.6)
Less	0 (0)	2 (5.7)	3 (8.6)	5 (14.3)
Total	10 (28.6)	17 (48.6)	8 (22.9)	35 (100)

The cross-tabulation results (Table 5) indicate that better family support is associated with lower pain levels among patients with chronic diseases. Respondents with strong family support mostly experienced mild to moderate pain, with few reporting severe pain. In contrast, those with poor family support showed a higher proportion of severe pain, while moderate support fell in between, suggesting a gradient relationship. These findings indicate that family support contributes to pain management, which is consistent with statistical results showing a significant negative correlation-meaning that stronger family roles are associated with lower pain levels.

4. DISCUSSION

The results showed that of the total 35 respondents, the majority had a good level of family support, with 20 respondents (57.1%), followed by a moderate level with 10 respondents (28.6%), and a low level with 5 respondents (14.3%). Among those with good family support, most experienced mild and moderate pain, with 8 respondents (22.9%) and 10 respondents (28.6%), respectively, and only 2 respondents (5.7%) reporting severe pain. In contrast, among respondents with low family support, none experienced mild pain

(0%), and the majority experienced moderate and severe pain, with 2 respondents (5.7%) and 3 respondents (8.6%), respectively. These findings indicate a trend that better family support is associated with lower levels of pain experienced by patients. This result is consistent with previous studies showing that family support is significantly associated with reduced pain levels in patients with chronic diseases (Waskita et al., 2017; Supriyadi, 2024).

Overall, the distribution of pain levels in this study showed that most respondents experienced moderate pain (17 respondents; 48.6%), followed by mild pain (10 respondents; 28.6%) and severe pain (8 respondents; 22.9%). This indicates that pain remains a major problem among patients with chronic diseases despite receiving treatment. Poorly managed chronic pain can lead to decreased quality of life, impaired daily activities, and psychological problems such as anxiety and depression. This finding is consistent with a study conducted by Hendesa & Tjekyan (2018), which reported that chronic pain is closely associated with increased anxiety among patients, which shows that chronic pain is closely associated with increased anxiety in patients. In addition, the International Association for the Study of Pain (IASP,

2021) emphasizes that pain is a complex experience influenced by physical, psychological, and social factors.

The results of the bivariate analysis using the Spearman Rank test showed a p-value of 0.002 ($p < 0.05$) and a correlation coefficient of $r = -0.45$, indicating a statistically significant relationship between family role and pain level, with moderate strength and a negative direction. The negative correlation suggests that better family support is associated with lower pain levels. This finding is supported by a study by Ilmi et al. (2018), which reported that family support significantly influences pain management among patients with hypertension. Family support can improve treatment adherence and help patients perform daily activities.

The role of the family in this study includes emotional, instrumental, informational, and appraisal support. Emotional support, such as empathy and attention, can reduce patients' anxiety levels, which indirectly influences pain perception. Instrumental support helps patients meet their daily needs, thereby reducing physical burden. In addition, informational support helps patients understand their condition and treatment. This finding is consistent with a study by Kartika et al. (2015), which reported that family roles contribute to improving the

quality of life of patients with chronic diseases.

These results are further supported by other studies showing that family involvement in the care of patients with chronic diseases can improve treatment adherence and symptom control (Suparjo et al., 2025; Nurapipah et al., 2022). This indicates that the family's role is not only as a companion but also as an essential factor in the success of patient care.

However, there are still respondents with low family roles (14.3%) who tend to experience moderate to severe pain. This may be caused by the family's lack of knowledge about pain management, limited time for patient care, and economic factors that affect the quality of support provided. This condition aligns with research by Waskita et al. (2017), which found that limited family resources create obstacles to the care of patients with chronic diseases. The Ministry of Health of the Republic of Indonesia also emphasizes that improving family roles should be carried out through continuous education and empowerment (Kementerian Kesehatan RI, 2021).

In conclusion, this study's findings confirm that family role is significantly associated with pain management in patients with chronic diseases. The more optimal the family support, the better the

pain control achieved. Nurses can help families engage in pain management in patients with chronic illnesses through simple, structured interventions. Nurses can educate families during home or care visits about non-pharmacological pain management techniques, such as deep-breathing relaxation, distraction, and warm/cold compresses. Nurses can also directly involve families in monitoring the patient's pain level using simple measurement tools (e.g., numeric pain scale) and provide written guidance (leaflets) for them to practice at home. Psychosocial support can also be enhanced by encouraging families to provide attention, motivation, and support throughout the care process.

5. CONCLUSION

Based on the study of 35 respondents, most patients with chronic diseases had good family support (57.1%) and experienced moderate pain (48.6%). Bivariate analysis showed a significant relationship between family role and pain level ($p = 0.002$; $r = -0.45$), indicating a moderate negative correlation-better family support is associated with lower pain levels. These findings highlight that family support plays an important role in pain management. Optimal emotional, instrumental, and informational support

can help reduce pain perception and improve patients' quality of life.

AUTHOR CONTRIBUTIONS

All authors contributed to the conception and design of the study, data collection, data analysis, and manuscript preparation. All authors have read and approved the final manuscript.

ACKNOWLEDGMENT

The authors would like to thank all respondents in Boyolangu, Tulungagung, for their participation in this study. The authors also express their sincere gratitude to STIKes Hutama Abdi Husada for the support and facilitation of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this research.

DATA AVAILABILITY STATEMENT

The data data can be accessed from the corresponding author upon reasonable request.

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