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Family support and dietary adherence in older adults with hypertension: A cross-sectional study

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Abstract

The increasing number of older adults in Indonesia has been accompanied by a growing prevalence of hypertension, a chronic condition that may lead to stroke, heart failure, or kidney disease. Adherence to a hypertension-specific diet is essential in managing the disease, and family support is believed to play a critical role in ensuring dietary compliance among older adults. This study explored the association between family support and dietary adherence in hypertensive older adults. A cross-sectional study was conducted involving 106 older adults diagnosed with hypertension and living with their families. Participants were selected using purposive sampling, and data were collected using validated questionnaires. The Chi-square test was used to analyse the association between family support and dietary adherence. The findings showed that older adults who received strong family support were more likely to follow dietary recommendations. It highlights the importance of involving families in chronic disease management strategies, particularly encouraging healthy lifestyle behaviors among older adults. Family-based approaches should be prioritised in hypertension intervention programs to improve health outcomes in the elderly population.

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1. Introduction

The global aging population is growing rapidly, particularly in developing countries. In Indonesia, it is projected that by 2045, older adults aged 60 years and over will constitute nearly 20% of the total population, marking a significant demographic shift (Lydia, Setyowati, & Setyaningrum, 2022). This aging trend is associated with a higher prevalence of non-communicable diseases, notably hypertension, which remains one of the most common chronic conditions among older adults (Badan Pusat Statistik, 2022). According to the World Health Organization, approximately one in four older adults worldwide lives with hypertension (Arindari, 2022). National data indicate that the prevalence of hypertension in Indonesia has reached 34.1%, making it a pressing public health issue (Riskesdas, 2018).

Hypertension is a persistent increase in blood pressure, with systolic pressure ≥140 mmHg and diastolic pressure ≥90 mmHg. It often presents without symptoms, yet it can lead to serious complications such as stroke, kidney failure, heart disease, and vision loss if not adequately managed (Kemenkes RI, 2020; Ekasari et al., 2021). While some risk factors for hypertension, such as age and genetics, are non-modifiable, many others, such as high salt intake, sedentary lifestyle, and poor dietary habits, can be addressed through behavioral interventions (Herda & Seprianti, 2022). Adopting a healthy diet, including reducing sodium and saturated fats, increasing fruit and vegetable intake, and maintaining regular physical activity, is critical for controlling blood pressure and preventing complications (Suharmanto, 2021).

Despite the availability of evidence-based dietary guidelines, many older adults with hypertension fail to comply with recommended nutritional practices. One of the contributing factors to this non-adherence is insufficient family support. Family support encompasses emotional, instrumental, informational, and appraisal assistance that family members provide in managing daily routines and health-related behaviors. In hypertension, family members can be pivotal in reminding patients about dietary restrictions, meal planning, and consistent medication use (Sapwal, Taufandas, & Hermawati, 2021; Dewi, Kristiyawati, & Victoria, 2022).

Recent studies have emphasised the positive influence of family support on dietary adherence among older adults with hypertension. For example, Sari, Agusthia, and Noer (2020) found a significant association between family support and dietary compliance among older adults in Lingga, Indonesia. Similarly, Liawati, Purnairawan, and Ihsan (2024) reported that over 80% of hypertensive older adults receiving family support were more likely to adhere to dietary recommendations. However, these studies are often limited to specific local contexts, and further research is needed to confirm the generalizability of their findings. In light of the growing burden of hypertension among aging populations and the recognised importance of familial involvement in chronic disease management, investigating the extent to which family support contributes to dietary adherence in older adults with hypertension is both relevant and necessary. This study examines the association between family support and dietary adherence in older adults with hypertension. The findings are expected to inform nursing practice and community-based health interventions by emphasising the importance of family engagement in promoting self-care behaviors among older adults.

2. Method

2.1 Research Design and Participants

This study employed a quantitative approach with a descriptive-analytic cross-sectional design, which was considered appropriate to examine the relationship between family support and dietary adherence in hypertensive older adults. The target population consisted of individuals aged 60 years and older who had been diagnosed with hypertension and were living with family members. A total of 106 participants were recruited using purposive sampling, based on inclusion criteria that required participants to be physically and cognitively capable of responding to questionnaires and to reside with family members. The sample size was determined using standard calculation procedures for correlational studies, ensuring alignment with quantitative sampling principles as Subhaktiyasa (2024) outlined.

2.2 Instruments and Data Collection

Data collection was conducted from March to May 2024 in the operational area of the Pondok Gede Public Health Center, West Java, Indonesia. The principal researcher facilitated the process with support from trained elderly care volunteers. Participants completed self-administered questionnaires during routine visits to the health center. Two standardized instruments were used: a Family Support Questionnaire comprising 20 items rated on a 4-point Likert scale, and the Perceived Dietary Adherence Questionnaire (PDAQ), comprising nine items rated on a 5-point Likert scale. Instruments were pilot-tested on 30 older adults. The Family Support Questionnaire showed item validity values ranging from 0.371 to 0.722 and a reliability coefficient (Cronbach's alpha) of 0.88. The PDAQ demonstrated validity values ranging from 0.391 to 0.728 and a Cronbach's alpha of 0.75, indicating acceptable reliability according to Subhaktiyasa (2024a).

2.3 Data Analysis

Data analysis was performed using univariate and bivariate statistical methods. Univariate analysis was used to describe the demographic characteristics of participants as well as the distribution of family support and dietary adherence. Bivariate analysis was conducted to assess the association between family support and dietary adherence using the Chi-square test. All analyses were performed using the Statistical Package for the Social Sciences (SPSS), following quantitative descriptive analysis principles (Subhaktiyasa et al., 2025).

2.4 Ethical Considerations

This study was approved by the Ethics Committee of Poltekkes Kemenkes Jakarta III (Approval No. LB.02.02/F.XIX.21/4259/2024). Before providing written informed consent, all participants had

comprehensive information about the study's objectives, procedures, potential risks, and benefits. Participation was voluntary, and participants were informed of their right to withdraw from the study without penalty. As older adults are considered a vulnerable population, additional safeguards were implemented, including repeated explanations and comprehension checks to ensure informed understanding. Confidentiality and anonymity were maintained throughout the study, from data collection to publication. All data were anonymised to prevent any potential identification of individual participants.

3. Results and Discussion

3.1 Results

This section presents the research findings based on the study objectives, which aim to examine the association between family support and dietary adherence among older adults with hypertension. The results are organised into three main subsections: participant characteristics, distribution of key variables, and the relationship between family support and dietary adherence. Descriptive statistics are presented first to provide an overview of respondent demographics and variable distribution, followed by inferential analysis using the Chi-square test to determine the significance of associations between variables.

Table 1. Distribution of Participant Characteristics

Characteristics	Category	Frequency	Percentage (%)
Age	60–74 years	97	91.5
	≥75 years	9	8.5
Gender	Female		
	Male	75	70.8
		31	29.2
Education	Higher education	51	48.1
	Lower education	55	51.9
Duration of Hypertension	1–5 years	55	51.9
	6–10 years	51	48.1

Table 2. Distribution of Family Support and Dietary Adherence

Variable	Category	Frequency	Percentage (%)
Family Support	Good	56	52.8
	Poor	50	47.2
Dietary Adherence	Adherent	55	51.9
	Non-adherent	51	48.1

Table 3. Association Between Family Support and Dietary Adherence

Family Support	Dietary Adherence						p-value	odds ratio (95% CI)
	Good		Poor		Total			
	N	%	N	%	N	%		
Good	36	64.3	20	35.7	56	100	0.012	2.937 (1,332-6,474)
Poor	19	38	31	62	50	100		

Table 1 shows that most participants were aged 60 to 74 (91.5%) and were predominantly female (70.8%). More than half had attained lower levels of education (51.9%) and had been living with hypertension for between one and five years (51.9%). Table 2 presents the distribution of the main variables, indicating that 52.8% of respondents reported receiving good family support, while 51.9% demonstrated adherence to dietary recommendations for hypertension management. Table 3 summarises the results of the inferential analysis, revealing a statistically significant association between family support and dietary adherence ($p = 0.012$). Participants who reported receiving good family support were more likely to comply with nutritional guidelines than those with inadequate support.

3.2 Discussion

This study examined the association between family support and dietary adherence among older adults with hypertension. The findings revealed that most participants were female, 60 to 74 years old, and had low levels of formal education—characteristics consistent with previous research. For instance, Perdana and Salmiyati (2017) found that hypertension prevalence was highest among adults aged 60–74, and InaKii, Soelistyoningsih, and Jayanti (2021) similarly reported a higher proportion of older female hypertensive patients. The predominance of female respondents may be related to their higher life expectancy and tendency to engage more frequently with health services. Furthermore, the finding that over half of the participants had lower education aligns with Amelia and Kurniawati (2020), who noted that limited education could influence the extent to which older adults comprehend and apply dietary recommendations. The duration of hypertension in this study, predominantly 1–5 years, mirrors the results reported by Nur'aini and Nisak (2022) and may indicate an early-stage adaptation phase where awareness and behavior change are still developing.

Regarding the core variables, the study established a significant association between family support and dietary adherence. It reinforces findings by Liawati, Purnairawan, and Ihsan (2024), who noted that adequate family support correlates positively with adherence to hypertension diets among older adults. When family members provide consistent encouragement, monitoring, and shared commitment, older individuals are more likely to modify their dietary habits and adhere to prescribed restrictions. It is supported by Wahyudi, Herlianita, and Pagis (2020), who emphasized the role of family as a primary support system, particularly in helping manage daily nutrition and sustaining healthy routines. Similarly, Torar et al. (2020) identified a significant relationship between family harmony and improved adherence to treatment plans, including dietary regulations. Emotional bonding and relational stability within the family can serve as buffers against stress, enabling better health behavior adaptation among older individuals (Derasin, 2024; Martínez-Líbano, 2023; Mercado, 2024).

A notable finding in this study was that informational support emerged as the most effective form of assistance. Informational support includes guidance on permissible foods and dietary restrictions, which enhances awareness and reinforces adherence (Beasant et al., 2024; Jeanes et al., 2020). Participants reported that family members actively monitored their meals based on health recommendations. It aligns with Sumantra, Kumaat, and Bawotong (2017) findings, who observed that informative family support significantly improved medication adherence among hypertensive older adults. Similarly, structured information from trusted family members can be a health promotion strategy for dietary behavior.

Nonetheless, nearly half of the participants received low-income family support and did not adhere to dietary recommendations. It suggests that while family support is beneficial, other factors such as education, socioeconomic status, and caregiving dynamics may also influence adherence. Older adults with limited formal education may struggle to process health information effectively, even when supported by family. This concern is echoed by Chen et al. (2023), who reported that educational level, income sources, caregiving quality, and daily functioning abilities significantly influenced the effectiveness of elderly care services. Makhta et al. (2023) found that gender and caregiving duration also shaped the social support older adults received. These findings suggest that while family support is a critical factor, it must be contextualised within a broader framework of social determinants that affect health behavior. This study confirms that family support, particularly informational support, significantly enhances dietary adherence among hypertensive older adults. However, disparities in adherence levels indicate a need for multifaceted interventions that combine family-based strategies with educational and community-level support mechanisms. These findings affect nursing practice and public health programs focused on chronic disease management in aging populations.

4. Conclusion

This study demonstrates that family support is critical in enhancing dietary adherence among older adults with hypertension. Older adults who received consistent emotional, informational, instrumental, and appraisal support from their family members were more likely to comply with recommended dietary practices. These findings underscore the importance of involving family members as active contributors in chronic disease management strategies, particularly in promoting lifestyle modifications such as dietary control. From a practical perspective, health interventions should not focus solely on patients but also incorporate family-based approaches as an integral component of hypertension care. Theoretically, this study contributes to the growing knowledge on the social determinants of health behavior in aging

populations. However, this study is limited by its cross-sectional design and reliance on self-reported data, which may affect the generalizability of the findings. Future research is recommended to explore which specific types of family support are most influential, and to examine mediating factors such as cultural, socioeconomic, and psychological variables that may shape the relationship between family support and dietary adherence. These insights can inform the development of more targeted, context-sensitive interventions to improve chronic disease outcomes in older adults.

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Conflict of Interest

The authors declare no conflict of interest.

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