

Types of Empowerments on Improving Hypertension among Elderly: A Systematic Review

Tri Nurhidayati^{1,2*}, Ah Yusuf¹, Retno Indarwati¹

¹Faculty of Nursing, Airlangga University, Surabaya, PQJM+528, Mulyorejo, Surabaya, East Java 60115, Indonesia

²Faculty of Nursing and Health Sciences, Muhammadiyah University Semarang, Central Java 50273, Indonesia

*Corresponding Author's Email: tri.nurhidayati-2022@fkip.unair.ac.id

ABSTRACT

Introduction: Hypertension is a cardiovascular disease, often referred to as the silent killer disease, that mostly affects the elderly. Changes in body condition and unhealthy lifestyles cause hypertension in the elderly. Hypertension is basically a cause of high mortality and impacts expensive care for the elderly. The caregiver's lack of ability is one of the triggers for the severity of hypertension. The caregiver plays a crucial role in helping elderly people with hypertension become independent. Research on the empowerment of caregivers of elderly hypertensives is very diverse, but research on the most effective empowerment for caregivers is limited. **Objective:** This study aims to investigate the type of empowerment that improves hypertension in the elderly. **Methods:** The online databases include Science Direct, ProQuest, PubMed, Sage, Ebscohost, and Google Scholar. Articles were reviewed from 2018 to 2022. Protocol and evaluation of literature review using the PRISMA checklist and the Joanna Briggs Institute Guidelines. **Results:** A total of 15 articles define the types of empowerments, comprising 6 types of such as family empowerment empowerment (4 articles), social support (4 articles), adaptation (2 articles), education (3 articles), dyadic partnership (1 article), and multidisciplinary (1 article). The development of a caregiver empowerment model is expected to increase the ability to care for the elderly and have an impact on the self-management of hypertension. **Conclusions:** Empowering caregivers for elderly people with hypertension is an important step in ensuring that elderly people receive optimal care and are able to better manage their hypertension condition. The most common were family empowerment and social support.

Keywords: Empowerment; Elderly; Hypertension

INTRODUCTION

In Southeast Asian countries, where the prevalence of hypertension is rapidly rising, there is a scarcity of studies examining how patients manage their self-care practices (Irwan *et al.*, 2022). The highest non-communicable disease in Indonesia is hypertension (68.6%). The prevalence of hypertension in Indonesia was 658,201 people, while the elderly who suffered from hypertension were 63.5% (Riskasdas Kemenkes, 2018). Researchers find that caregivers struggle to provide adequate care for elderly people with hypertension (Boonyathee *et al.*, 2021). The family has an important role in helping elderly people with hypertension become independent. Family involvement as a caregiver has a positive impact on handling elderly hypertension (Silva *et al.*, 2021).

The caregiver has an important role in treating elderly people with hypertension to become independent (Raei *et al.*, 2022; Elvira, 2018). A caregiver has a positive impact on handling the elderly. Caregiver support has the effect of increasing lifestyle and reducing stress (Wasmani *et al.*, 2022). The caregiver plays a crucial role in ensuring medication adherence by monitoring the correct dosage, schedule, and method of medication administration (Kabia *et al.*, 2022). Efforts aim to empower caregivers to enhance their caring abilities and family attitudes. While there is a wealth of research on how to empower caregivers of elderly hypertensives, there is a dearth of research on the most effective forms of empowerment. The objective of this study is to explore

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the type of empowerment that improves hypertension in the elderly.

METHODOLOGY

This research design is a literature review and 15 articles using six databases: Science Direct, ProQuest, PubMed, Sage, Ebscohost, and Google Scholar. Articles were reviewed from 2018 to 2022. The process of evaluating this systematic review using the PRISMA checklist involved assessing an appropriate journal with keywords such as empowerment, hypertension, and the elderly.

Stage 1: Identifying The Research Topic or Questions

The exploration questions were made in light of the assumption that empowerment has a significant impact on the elderly with hypertension. The following question served as the basis for this analysis: what kind of empowerment is most common and effective for the elderly with hypertension?

Stage 2: Identifying Relevant Studies

Search Scheme

The articles used six databases: Science Direct, ProQuest, PubMed, Sage, Ebscohost, and Google Scholar, from July to September 2023.

Search Terms

The search terms include empowerment, the elderly, and hypertension. The inclusion criteria minimized the number of articles.

Search Parameters

The articles that qualified include full-text articles in English from 2018 to 2022.

RESULTS

Stage 1: Study Selection

A total of 246 papers were discovered throughout the literature search. Twenty-three evaluations, after removing duplicates, abstracts, and interventions, finally included 15 research articles.

The identification of articles was done using PRISMA (See Figure 1).

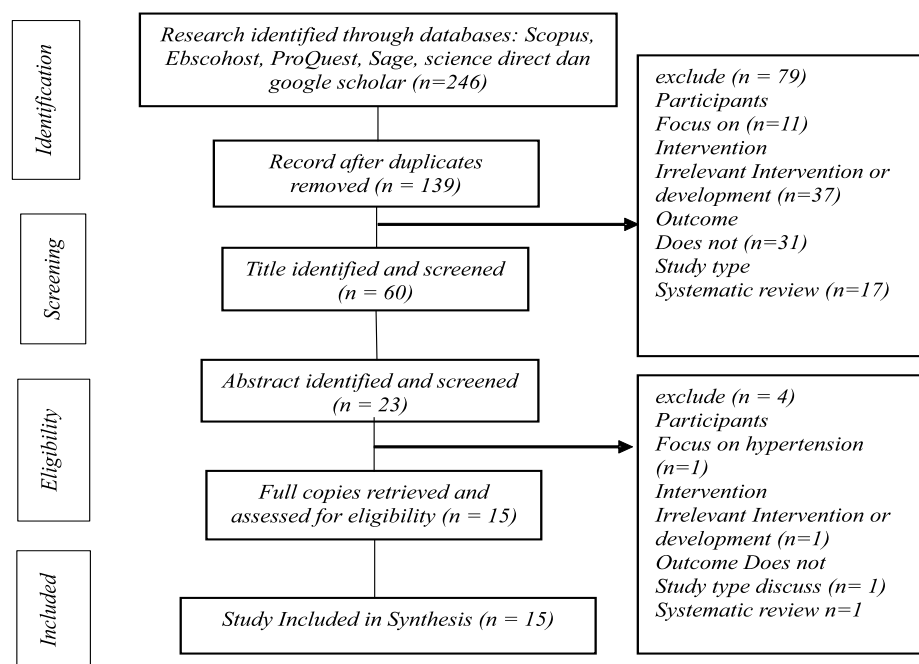


Figure 1: PRISMA Flowchart for the Article Selection

Stage 2: Data Collection

Quality Assessment of Articles

The quality assessment of the articles in this audit was finished in two ways: selecting studies based on the criteria established in this review and quality assessment with the Joanna Briggs Institute. Articles that met the criteria were chosen for further assessment.

Data Extraction and Charting

A charting design was made for this study. The chart included the following characteristics: author, year published, country, design, subjects, variables, instruments, analyses, and key findings.

Stage 3: Data Summary and Synthesis

Article Characteristics

Fifteen articles met the inclusion criteria. Most of them are quantitative design and come from Asia (13 articles), Nigeria (1 article), and Albania (1 article). The empowerment intervention lasted from 12 weeks to 6 months. The following table explains the review results:

Table 1: Characteristics Studies

No	Title/Author/Year/Country	Design/Subject/Analysis	Variable/Instrument	Key Finding
1	Social support family / (Boonyathee <i>et al.</i> , 2021)/Thailand	Design: Quasi experiment Subject: 286 elderly Analysis : ANOVA	Variable: Knowledge, self - efficacy, behavior, blood pressure, total cholesterol, HDL (elderly), Knowledge, self-efficacy, behavior (caregiver) Instruments: general demographics, knowledge - 22, self-efficacy, health care behavior	The program underscores the significant job of parental figures in offering social help, expanding certainty, and taking part in care, observing and assisting the old with controlling
2	Family-centered Empowerment Model / (Hamedani, Salar & Kermansaravi, 2021)/Iran	Design: Clinical trial study Subject: 70 seniors and families Analysis: Independent sample t test, chi square, analysis of variance	Variables: Quality of Life Instruments: Quality of life in patients with hypertension -42 Shamsi	The results of the repeated measures analysis of variance revealed significant differences in the quality of life between the two groups at the second and third stages over time.
3	<i>Knowledge and Behavior /</i> (Seangpraw & Ong-Artborirak, 2020) /Thailand	Design: Cross-sectional study Subject: 402 caregivers Analysis : Multivariate linear regression	Variables: Knowledge, care behavior, quality of life Instruments: knowledge, care behavior, WHOQOL - BREF	Age, caregiver-patient relationship, knowledge, and attitudes toward health services in elderly patients with hypertension were found to be significantly associated with caregivers' quality of life in the multivariate linear regression test.
4	Family Empowerment Model/(Hidayat 2020) /Indonesia	Design: Pre experimental with one group of pre-test-posttest design Subject: 21 respondents Analysis : Pair t test	Variables: Compliance, Blood Pressure Instruments: Diet compliance-19	The Paired <i>T</i> Test showed an increase in dietary adherence with a <i>P</i> value = 0.007 (<i>p</i> <0.05), while a decrease in systolic blood pressure with a <i>P</i> value = 0.005 (<i>p</i> <0.05), and diastolic blood pressure with a <i>P</i> value = 0.023 (<i>p</i> < 0.05).

5	Social Support / (Thuy <i>et al.</i> , 2021) / Vietnam	Design: Crosssectional study Subject: 220 seniors Analysis: The chi -square test and the Mann-Whitney test were performed as appropriate. Multivariate logistic and to bit regression models	Variables: Social support Instruments: age, gender, education, occupation, place of residence, smoking and alcohol drinking status, comorbidities, weight, height, body mass index, and quality of life. Short version 12 version 2 (SF-12v2) patient HRQoL instrument hypertension regarding physical components (PCS - 12) and mental components (MCS-12)	Social support and social networks are linked to controlling hypertension and adhering to recommended behaviors. Further mediations to further develop hypertension the board should address the likely impacts of informal community attributes
6	Family dyadic partnership program (Zeng, Yang, & Chien, 2021) / China	Design: RCT with pretest and post - test design. Subject: 44 family Analysis : ANOVA	Variables: Behavior, self - efficacy, relationship between patient and family Instruments: Chinese version of the Behavior and the Self - Efficacy Scale, Patient Health Questionnaire-9 (PHQ -9), Generalized Anxiety Disorder Scale-7, f EuroQol five - dimensional five level, - Chinese version of Dyadic	Family dyadic partnership intervention is a viable and acceptable program with a high enrollment (81.5%) and fulfillment rate (95.5%) and positive reactions from members. Control Blood pressure was significant with $P = 0.03$.
7	Adaptation predictor / (Ifeagwazi, Egberi & Chukwuorji, 2018) / Nigeria	Design: correlational Subject: 226 patients Analysis : regression	Variables: Emotional Reactions, Anxiety, blood pressure Instruments: 9 -item Emotional Reactivity Scale (ERS), State-Trait Anxiety	Emotional reactivity was positively related to increased blood pressure. Anxiety is decidedly connected with an expansion in circulatory strain. Emotional reactivity and elevated blood pressure are also partially mediated by anxiety.
8	Knowledge predictors (Duygu Kes, 2019) / Turkiye	Design: cross-sectional study Subject: 231 elderly Analysis: Kolmogorov - Smirnov test, multiple regression and, binary logistic regression analysis	Variables: predictors of blood pressure control and medication adherence Instruments: Description of Patient Medication Information and Compliance Form (MASES-SF)	Diet, physical activity, income level, employment status, and systolic and diastolic blood pressure all have a significant impact on medication adherence ($p < 0.05$) when the significance test of the regression coefficient is taken into consideration.
9	Social and community (Pirkle <i>et al.</i> , 2018) / Albania	Design : Description Subject: 393 elderly Analysis: STATA , multinomial logistic regression models (an extension of the binary logistic model	Variables: individual factor , interpersonal, community organization Instruments : social support and social network scale, Home And Community Environment (HACE) scale	This study illustrates the behavior of older patients and emphasizes the role of educating them to modify their behaviors, thereby preventing hypertension and other related issues. Additionally, another study has highlighted the importance of family caregivers in education, noting their role as intermediaries in transferring knowledge between themselves and the patients.

10	Family-centered empowerment model I/ (Someia <i>et al.</i> , 2020)/ Iran	Design: RCT Subject: 60 elderly women Analysis: independent <i>t</i> - test, ANCOVA	Variables: HPLP, anthropometry, blood pressure Instruments: HPLP2, anthropometry, blood pressure	Family can further develop wellbeing advancing way of behaving/way of life and further develop serum digestion (cholesterol, urea, creatinine). The eighth week saw the greatest increase. Cholesterol, LDL -C, urea and creatinine diminished in both the control and treatment gatherings. Viable weight reduction at a half year after treatment.
11	Family-centered empowerment model Multivariate Approach (Raei <i>et al.</i> , 2022)/ Iran	Design: RCT Subject: 105 family Analysis: ANCOVA	Variables: Quality of Life, perceived stress, anxiety Instrument: HRQoL, PSQ -14, State trait anxiety	Family who were in the FCEM group had altogether higher normal degrees of seen pressure. In the meantime, further examination through the subsequent model uncovered that the mediation didn't altogether build all parts of QoL. FCEM has huge FCEM bis lessens side effects of uneasiness, stress.
12	Social support and family function (Zhang <i>et al.</i> , 2020)/ China	Design: cross-sectional study Subject: 530 elderly Analysis: Wilcoxon rank - sum test and Kruskal–Wallis test, Spearman correlation analysis	Variables: social support, family functions Instruments: <i>Hypertension Patients Self -Management Behavior Rating Scale (HPSMBRS)</i> (Zhao & Liu, 2012), <i>Social Support Rating Scale (SSRS)</i> , <i>APGAR</i>	Self-management behavior was independently associated with social support, family functioning, and well-being.
13	Multi-disciplinary active aging intervention (Chi, Wu & Liu, 2021)/ China	Design: experiment Subjects: 80 elderly people Analysis: model fit analysis, GEE analysis	Variables: healthy lifestyle, mental health, social participation, active elderly Instruments: Walker healthy living scale, Lee brief symptom rating scale, Zheng self-rated social and community participation scale, Lin self-rated active aging scale	The 19-week mediation resulted in enhancements in way of life, emotional wellness status, social support, and dynamic older people. The latent elements in this model are dynamic older, emotional well -being, and sound way of life.
14	Family caregiver empowerment program (Dharma <i>et al.</i> , 2018) / Indonesia	Design: quasi experiment with a control group Subjects: 80 family Analysis: ANOVA	Variables: quality of life, functional capacity Instruments: SSQoL-12, Barthel index	Six months after the intervention, CEP-BAM significantly improved the functional capacity of elderly stroke survivors and their quality of life. Nine of the ten practical limit spaces further developed in the mediation after CEP -BAM, while two areas (eating and dressing) expanded fundamentally in the a half year after CEP BAM.

A total of 15 articles defines the types of empowerments, comprising 6 types of such as family empowerment (4 articles), social support (4 articles), adaptation (2 articles), education (3 articles), dyadic partnership (1 article), and multidiscipline (1 article). The development of a caregiver empowerment model is expected to increase the ability to care for the elderly and have an impact on the self-management of hypertension.

DISCUSSION

This systematic review aims to discover the types of empowerment models that caregivers can use to increase their ability to care for elderly people with hypertension. Empowering caregivers for elderly people with hypertension is an important step in ensuring that elderly people receive optimal care and are able to better manage their hypertension condition. Hypertension, a non-communicable disease, currently poses a significant threat to global public health issues, particularly in Indonesia. Because hypertension ranks first among sufferers compared to other diseases, the Indonesian Ministry of Health has used various ways to deal with hypertension problems in society (Ministry of Health, 2018).

Thematic analysis identified for the articles was 6 types of empowerment, such as family empowerment (4 articles), social support (4 articles), adaptation (2 articles), education (3 articles), dyadic partnership (1 article), and multidisciplinary (1 article).

Family Empowerment: Family members are familiar with the behavioral patterns of older patients, and their role is to supplement their education to modify these behaviors as necessary to prevent hypertension and unexpected problems (Callaway, Connor, & Foley, 2018). Another study has demonstrated the importance of family guardians as supporters of training, as well as their ability to act as mediators, moving information between themselves and the patients (Boonyathee *et al.*, 2021). Family caregivers need to understand the relevance of anthropometric and blood pressure measurements (Rosdiana, 2019).

Social Support: The elderly undoubtedly benefits greatly from social help and support, particularly when it comes to relaxing and participating in social activities within their families and local communities (Liu, Gou, & Zuo, 2016). The community centers' social network support assists with empowering the older people to go to social exercises (Pirkle *et al.*, 2018).

Adaptation: Chronological age should not be the main criterion for adapting therapeutic strategies because of the large heterogeneity in the pace and consequences of the aging process among older adults (Benetos, Petrovic, & Strandberg, 2019). Establishment of support groups for caregivers to share experiences and get support from fellow caregivers and counseling services to help caregivers overcome stress and emotional exhaustion.

Education: Successful training and observing projects should be made to accomplish blood pressure control, and it is critical to realize the elements influencing pulse control so that such projects can be arranged in hypertension. (Duygu Kes, 2019). Education about hypertension by providing information about what hypertension is, risk factors, symptoms, and complications. Medical management involves training caregivers in medication management, blood pressure monitoring, and how to provide proper care. It imparts knowledge on the significance of maintaining a low-salt diet, engaging in physical activity, and managing stress. (Riskesdas Kemenkes, 2018). Monitoring programs prevent increasing hypertension as a result of weight management because nutritional status is associated with blood pressure. (Roy, Roy, & Ghosh, 2023). Stress management through relaxation techniques is critical for lowering blood pressure. (Rosdiana & Cahyati, 2019; Wijaya & Nurhidayati, 2020). The use of progressive muscle relaxation can reduce stress and blood pressure. (Rosdiana & Cahyati, 2019). Education and training, team-based care, consultation, and short message service reminders were the most common interventions. (Ye *et al.*, 2024). Current evidence suggests that health coaching could reduce blood pressure, improve dietary behaviors, and increase self-efficacy among patients with hypertension, making it an effective and alternative method for managing hypertension (Meng *et al.*, 2023). Meta-analyses found evidence for the positive effects of group-format interventions measuring empowerment, HbA1c, and self-efficacy. Some individual-format interventions also showed effects on empowerment. Stepanian *et al.*, 2023 identified high levels of heterogeneity and variability among the conceptual frameworks. The meta-analysis showed that mean values of systolic blood pressure (SBP) and diastolic blood pressure (DBP) decreased significantly after strength training interventions (Correia *et al.*, 2023). Lifestyle behavior modification plays an essential role in the management of hypertension. Education

and counseling interventions and strategies to achieve lifestyle behavior modification are vital components (Bulto *et al.*, 2024).

Dyadic Partnership: Spousal support for elderly people with hypertension can promote better management of their condition and help them enjoy a high quality of life. This support focuses not only on medical aspects but also on psychological ones, which are important for long-term management. The majority of elders whose spouses were still alive were really focused on by their mates and were commonly worried about one another (Perez-Sousa *et al.*, 2020). They had to manage experiences collectively, and they considered interacting with each other as their duty. Investigations have discovered that guardians who are youngsters or grandkids can have preferable personal satisfaction over different gatherings (Seangpraw & Ong-Artborirak, 2020).

Multi Discipline: To ensure that seniors with hypertension receive comprehensive and holistic care, a multidisciplinary approach is essential (Durán-Vega *et al.*, 2019). This approach involves various professionals from different disciplines working together to meet the physical, psychological, and social needs of older adults with hypertension (Shepperd *et al.*, 2021). Doctors and nurses assist with treatment and blood pressure monitoring. The nutritionist provides a proper diet plan. Physiotherapists design safe exercise programs to improve heart health and reduce blood pressure. Psychologists provide support for dealing with stress. With a multidisciplinary approach, hypertensive elderly receives effective, efficient, holistic care that does not only focus on the disease but also improves overall quality of life (Sanclemente-Boli *et al.*, 2019).

Limitations

The variability in definitions and implementations of empowerment in this article across the reviewed articles could introduce inconsistencies in the findings. The focus on diverse empowerment types without a standardized measure may affect the comparability of results, and the exclusion of non-English language studies may have led to a geographical bias. Finally, the study's scope did not include direct empirical data collection, relying solely on secondary sources, which may limit the applicability of the findings to real-world settings.

CONCLUSION

The results showed heterogeneous models of caregiver empowerment. Most of the results showed family empowerment and social support empowerment. Empowering caregivers for elderly people with hypertension is an important step in ensuring that elderly people receive optimal care and are able to better manage their hypertension condition. Improving the health of the elderly through better and more regular care. Caregiver stress and caregiver fatigue decrease due to proper support, and the quality of life of the elderly and caregivers improves. This raises the issue of how these needs can be focused on sustainable caregiver empowerment.

Future research should focus on developing and evaluating sustainable models of caregiver empowerment that integrate family support, social support, and other effective strategies identified in the study. It is crucial to investigate the specific training and resources required for caregivers to manage hypertension effectively and to develop standardized programs that can be widely implemented. Ensuring that these empowerment strategies are adaptable to diverse cultural and geographical contexts will enhance their applicability and effectiveness.

Conflict of Interest

The authors declare that they have no competing interests.

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