

## COMMUNITY EMPOWERMENT IN PREVENTION AND MANAGEMENT OF HYPERTENSION: LITERATURE REVIEW

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### ABSTRACT

Hypertension (HT) is a significant public health concern globally, particularly in low- and middle-income countries (LMICs). It is a major contributor to cardiovascular diseases (CVDs) and requires effective prevention and management strategies. Globally, hypertension affects approximately 1.28 billion adults aged 30-79 years and in Indonesia recent studies indicating that about 34.1% of the adult population is affected, yet many remain undiagnosed or untreated. Method : This study aimed to systematically evaluate the existing evidence on community empowerment strategies in the prevention and management of hypertension. Search Strategy was used PubMed, MEDLINE, Google Scholar, and Web of Science data base. Inclusion Criteria: Studies focusing on community-based interventions. Data were extracted from the selected studies using a standardized form are: Author(s), year of publication, Study design, quality Assessment tools. For randomized controlled trials, the Cochrane Risk of Bias Tool was utilized, while observational studies were evaluated using the Newcastle-Ottawa Scale. A narrative synthesis was employed to summarize the findings. Key themes regarding community empowerment strategies: Educational campaigns, workshops, Peer support, Integration with local healthcare systems, Lifestyle modification. Result : The findings revealed a significant increase in public knowledge regarding hypertension prevention after the interventions were implemented ( $p = 0.03$ ). The empowering local health workers can enhance community health initiatives. Conclusion : Integration with public health systems and capacitating community health officers are also crucial for widespread adoption and cost-effectiveness. Community empowerment can lead to improved health outcomes by reducing disparities and increasing social justice.

Keywords: cultural sensitivit; empowerment strategies; hypertension

### INTRODUCTION

Hypertension (HT) is a significant public health concern globally, particularly in low- and middle-income countries (LMICs). It is a major contributor to cardiovascular diseases (CVDs) and requires effective prevention and management strategies. Community-based participatory research (CBPR) and community outreach programs have been increasingly recognized as crucial approaches in addressing health disparities and improving HT management. This literature review aims to explore the role of community empowerment in the prevention and management of hypertension, highlighting key strategies, outcomes, and challenges. HT is a chronic condition that often goes undiagnosed and untreated, leading to severe health consequences. The management of HT requires a multifaceted approach, including health education, lifestyle modifications, and regular monitoring. Community-based interventions are essential for reaching underserved populations and addressing cultural and socio-economic barriers to healthcare access. Hypertension, often referred to as high blood pressure, is a chronic condition that poses a significant risk for cardiovascular diseases (CVDs) and other health complications. Globally, hypertension affects approximately 1.28 billion adults aged 30-79 years, with the prevalence expected to rise due to

factors such as aging populations, urbanization, and lifestyle changes. In Indonesia, for instance, the prevalence of hypertension among adults is alarmingly high, with recent studies indicating that about 34.1% of the adult population is affected, yet many remain undiagnosed or untreated (Patriyani, Rohimah and Rahayu, 2021). This underscores the urgent need for effective prevention and management strategies.

Community empowerment has emerged as a pivotal approach in addressing hypertension, particularly in low- and middle-income countries (LMICs). Empowering communities involves equipping individuals with the knowledge, skills, and resources necessary to take control of their health. This approach not only enhances individual health outcomes but also fosters collective action toward better health practices within communities (Chimberengwa and Naidoo, 2020) (5) . Community-based participatory research (CBPR) has been identified as an effective framework for engaging community members in health interventions. By involving local stakeholders in the design and implementation of health programs, CBPR can lead to more culturally appropriate and sustainable solutions for hypertension management (Chimberengwa and Naidoo, 2020). Various community outreach programs have demonstrated success in increasing awareness and adherence to hypertension management practices. These initiatives often include health education campaigns, regular blood pressure screenings, and lifestyle modification counseling (Bera, Mondal and Bhattacharya, 2023). For example, programs that train community health workers to conduct door-to-door screenings have shown promise in improving access to care and reducing barriers faced by individuals with hypertension (Bera, Mondal and Bhattacharya, 2023) . Furthermore, studies indicate that empowering health cadres—community members trained to provide basic health services—can significantly improve hypertension management outcomes by enhancing community engagement and facilitating regular health monitoring (Purwanta *et al.*, 2023).

Despite these advancements, challenges remain in implementing community empowerment strategies effectively. Factors such as socio-economic disparities, cultural beliefs surrounding health care, and limited access to resources can hinder the success of these initiatives . Therefore, ongoing research and evaluation are essential to refine these approaches and ensure they meet the diverse needs of communities. In conclusion, community empowerment plays a crucial role in the prevention and management of hypertension. By fostering collaboration between healthcare providers and community members through participatory approaches, it is possible to enhance awareness, improve access to care, and ultimately reduce the burden of hypertension on individuals and healthcare systems alike.

### **Community-Based Participatory Research (CBPR)**

CBPR is a collaborative approach between community members, researchers, and healthcare providers to address health disparities. This framework emphasizes a community-driven approach, tailoring health education platforms to the specific needs of the community. A scoping review by Chimberengwa *et al.* (2023) highlighted the effectiveness of CBPR in improving HT management by addressing socio-economic and cultural factors, fostering equitable partnerships, and implementing tailored health education programs. **Community Outreach Programs.** Community outreach programs have proven effective in identifying and managing hypertension. These programs often incorporate mobile health interventions, community health worker engagement, and door-to-door screenings. A review by Bera *et al.* (2020) noted that community outreach tailored to lifestyle factors and cultural beliefs shows promise in reducing loss to follow-up and enhancing health management success. Strategies such as promoting health literacy and awareness through

education are critical components of these programs. **Empowerment Strategies.** Empowerment strategies are essential for patient self-management of hypertension. A systematic review and meta-analysis by Zhao et al. (2019) demonstrated that empowerment strategies are effective in reducing systolic and diastolic blood pressure in hypertensive patients. These strategies include patient education, self-monitoring, and behavioral changes. Community empowerment initiatives aim to increase awareness and knowledge about hypertension prevention and management, facilitating community involvement in health care. **Case Studies and Community Initiatives.** Several case studies and community initiatives have demonstrated the effectiveness of community empowerment in controlling hypertension. For instance, a community service in Malang Regency aimed to increase knowledge and awareness of hypertension prevention through community diagnostics and educational programs. Similarly, a study in Indonesia focused on promoting health care cadres' knowledge of emergency hypertension management, emphasizing the importance of community-based interventions.

## METHOD

This literature review aims to systematically evaluate the existing evidence on community empowerment strategies in the prevention and management of hypertension. The following methods outline the approach taken in conducting this review. A comprehensive search was conducted across multiple electronic databases, including PubMed, MEDLINE, Google Scholar, and Web of Science. The search strategy utilized a combination of keywords and Medical Subject Headings (MeSH) terms related to community empowerment, hypertension prevention, and management. Key search terms included: "community empowerment", "hypertension management", "community-based interventions", "hypertension prevention", "participatory action research". The search was limited to studies published from January 2000 to July 2023 to ensure relevance and recency. Inclusion Criteria: Studies focusing on community-based interventions aimed at preventing or managing hypertension. Participants aged 18 years and older diagnosed with hypertension (defined as systolic blood pressure  $\geq 140$  mmHg or diastolic blood pressure  $\geq 90$  mmHg). Research conducted in low- and middle-income countries (LMICs) to address specific challenges faced in these settings. Studies published in peer-reviewed journals. Exclusion Criteria: Studies that did not focus on community-level interventions. Research involving non-human subjects or unrelated health conditions. Articles not available in English or lacking sufficient methodological detail. Data were extracted from the selected studies using a standardized form that included: Author(s) and year of publication, Study design (e.g., randomized controlled trials, cohort studies), Population characteristics (sample size, demographics), Intervention details (type of intervention, duration), Outcomes measured (blood pressure control, awareness levels). Key findings related to community empowerment strategies. The methodological quality of the included studies was assessed using appropriate tools based on study design. For randomized controlled trials, the Cochrane Risk of Bias Tool was utilized, while observational studies were evaluated using the Newcastle-Ottawa Scale. This assessment helped to determine the reliability and validity of the findings. A narrative synthesis was employed to summarize the findings from the included studies. Key themes regarding community empowerment strategies were identified, including: Educational campaigns and workshops, Peer support programs, Integration with local healthcare systems, Lifestyle modification initiatives, Where applicable, a meta-analysis was conducted to quantify the effect of community-based interventions on blood pressure control using a random effects model due to anticipated heterogeneity among studies.

- P (Population) Community members at risk of or suffering from hypertension, including various demographics such as age and socioeconomic status (Purwanza and Wahyudi, 2022)(Patriyani, Rohimah and Rahayu, 2021).
- I (Intervention) Community empowerment programs aimed at hypertension prevention and management (Kurniawan and Sawitri, 2024) (Patriyani, Rohimah and Rahayu, 2021).
- C (Comparison) Comparison between communities that receive the empowerment intervention and those that do not, or between different types of interventions (Purwanza and Wahyudi, 2022)(Patriyani, Rohimah and Rahayu, 2021).
- O (Outcome) Improved knowledge and behavior regarding hypertension management, reduction in blood pressure levels, increased community engagement in health practices, and overall enhancement of public health outcomes related to hypertension (Schmidt *et al.*, 2020).

### Ethical Considerations

This literature review did not involve direct human subjects; therefore, ethical approval was not required. However, ethical considerations regarding data usage from published studies were adhered to by properly citing all sources. By following these methods, this literature review aims to provide a comprehensive overview of how community empowerment can effectively contribute to the prevention and management of hypertension.

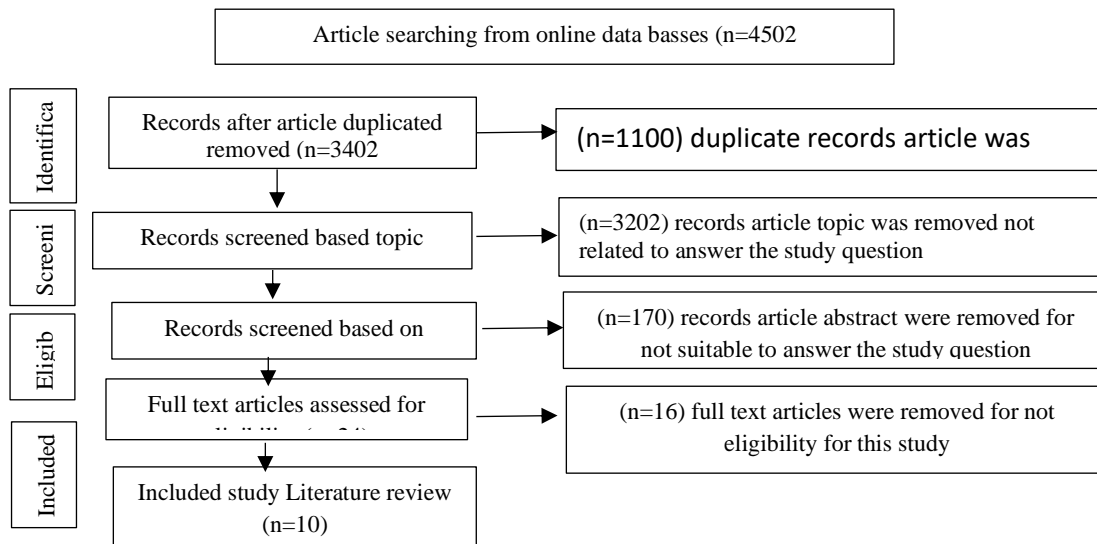


Figure 1: PRISMA Framework

### RESULT AND DISCUSSION

**Effectiveness of Community-Based Education:** A study conducted in urban slums of Kerala, India, assessed the impact of a community-based education and peer support program led by women's self-help groups (SHGs). The results indicated a significant reduction in mean systolic blood pressure (SBP) among participants in the intervention group, with a decrease of 6.26 mm Hg compared to 2.16 mm Hg in the control group ( $p < 0.001$ ) (P Suseela et al., 2022). This suggests that community-led initiatives can effectively lower blood pressure levels through education and social support.

**Empowerment of Health Cadres:** In Indonesia, a program aimed at empowering health cadres demonstrated positive outcomes in hypertension management. The training provided to health cadres increased their knowledge and capacity to conduct health screenings and lead exercise programs for community members. The Wilcoxon test results showed a significant improvement in the knowledge of health cadres post-intervention ( $Z = -2.375, p = 0.018$ ) (Purwanta

et al., 2023). This indicates that empowering local health workers can enhance community health initiatives.

**Community Engagement in Hypertension Prevention:** A community service initiative in Serang, Indonesia, focused on increasing awareness about hypertension through educational interventions, including counseling and practical demonstrations on blood pressure measurement. The findings revealed a significant increase in public knowledge regarding hypertension prevention after the interventions were implemented ( $p = 0.03$ ). The engagement of community members in self-monitoring their blood pressure was also noted as a positive outcome.

**Holistic Approach to Hypertension Management:** Another study emphasized a holistic approach to managing hypertension emergencies through community empowerment strategies. This included educating participants about lifestyle modifications, dietary changes, and regular physical activity (Proboningsih, 2023). The involvement of community members in these initiatives not only increased their knowledge but also fostered a sense of ownership over their health management.

**Discussion.** The findings from these studies underscore the importance of community empowerment as an effective strategy for preventing and managing hypertension. By leveraging local resources and engaging community members, these programs can address barriers to healthcare access, enhance health literacy, and promote sustainable health behaviors. Strategy for developing an online platform to facilitate the empowerment of people with chronic diseases that living in the community related to disease prevention and health promotion by screening for chronic diseases, determining action plans for health promotion, forming groups of people with chronic diseases to help each other and participate in improving health levels (Park et al., 2024).

The formation of a community of chronic disease sufferers is an independent empowerment of the sufferers themselves to provide support and help each other and will also improve health they (Fayn, des Garets and Rivière, 2021).

**Key Factors for Success:**

- Local Leadership:** Programs led by local women's SHGs or trained health cadres have shown higher participation rates and better outcomes. Their understanding of cultural contexts allows for more tailored interventions that resonate with community members.
- Peer Support:** The role of peer support in encouraging healthy behaviors cannot be overstated. Participants often feel more motivated when they receive encouragement from peers who understand their challenges.
- Education and Awareness:** Continuous education about hypertension management is crucial. Initiatives that include practical demonstrations (e.g., measuring blood pressure) empower individuals to take charge of their health.
- Sustainability:** For these interventions to be sustainable, they must integrate into existing healthcare systems and be supported by local government policies.

**Challenges:** Despite the successes observed, challenges such as socio-economic disparities, cultural beliefs about health practices, and limited resources can hinder the implementation of community empowerment strategies. Ongoing evaluation and adaptation of these programs are necessary to ensure they meet the evolving needs of communities. In conclusion, community empowerment is vital for enhancing the prevention and management of hypertension. By fostering collaboration between healthcare providers and community members, these initiatives can lead to improved health outcomes and greater equity in healthcare access. Future research should focus on scaling successful models and exploring innovative approaches to further engage communities in hypertension management efforts.

## CONCLUSION

Community empowerment is a vital component in the prevention and management of hypertension. By leveraging CBPR and community outreach programs, it is possible to address health disparities, improve health literacy, and enhance patient self-management. Tailored health education platforms, cultural sensitivity, and empowerment strategies are essential for successful community-based interventions. Integration with public health systems and capacitating community health officers are also crucial for widespread adoption and cost-effectiveness.

## REFERENCES

- Bera, O.P., Mondal, H. and Bhattacharya, S. (2023) 'Empowering Communities: A Review of Community-Based Outreach Programs in Controlling Hypertension in India', *Cureus*, pp. 1–12. Available at: <https://doi.org/10.7759/cureus.50722>.
- Chimberengwa, P.T. and Naidoo, M. (2020) 'Using community-based participatory research in improving the management of hypertension in communities: A scoping review', *South African Family Practice*, 62(1), pp. 1–14. Available at: <https://doi.org/10.4102/safp.v62i1.5039>.
- Fayn, M.G., des Garets, V. and Rivière, A. (2021) 'Collective empowerment of an online patient community: conceptualizing process dynamics using a multi-method qualitative approach', *BMC Health Services Research*, 21(1), pp. 2–3. Available at: <https://doi.org/10.1186/s12913-021-06988-y>.
- Kurniawan, K. and Sawitri, S.B. (2024) 'Community Empowerment in the Use Of Celery Plant ( *Apium graveolens* L ) as An Antihypertension In Patihan Village , Sidoharjo District , Sragen . Authors DOI : Keywords : How to Cite Main Menu', *Jurnal Abdimas Kesehatan*, 5(2020), pp. 1–5.
- P Suseela, R. et al. (2022) 'Effectiveness of a community-based education and peer support led by women's self-help groups in improving the control of hypertension in urban slums of Kerala, India: a cluster randomised controlled pragmatic trial', *BMJ Global Health*, 7(11), pp. 1–10. Available at: <https://doi.org/10.1136/bmjgh-2022-010296>.
- Park, M. et al. (2024) 'Developing an Online Health Community Platform for Facilitating Empowerment in Chronic Disease Prevention and Health Promotion', *Computers, informatics, nursing : CIN*, 42(6), pp. 421–429. Available at: <https://doi.org/10.1097/CIN.0000000000001070>.
- Patriyani, R.E.H., Rohimah, Y.T. and Rahayu, S. (2021) 'Empowerment of hypertension care communities as efforts to control hypertension in Mojosoongo, Surakarta City', *Community Empowerment*, 6(5), pp. 783–787. Available at: <https://doi.org/10.31603/ce.4441>.
- Proboningsih, J. (2023) 'Prevention of Hypertension Emergency Through Community Empowerment in the Working Area of Puskesmas Pacar Keling, Pucang Sewu, and Tambakrejo Surabaya', *Frontiers in Community Service and Empowerment*, 2(1), pp. 1–5. Available at: <https://doi.org/10.35882/ficse.v2i1.35>.
- Purwanta, P. et al. (2023) 'Indonesian Journal of Community Engagement', 9(3), pp. 1–3.
- Purwanza, S. and Wahyudi, Y. (2022) 'Cadre Empowerment Program for Hypertension Prevention in Village Jubel, Bantur Village, Bantur District', *Indonesian Journal of Community Health Nursing*, 7(1), pp. 7–10. Available at: <https://doi.org/10.20473/ijchn.v7i1.36055>.
- Schmidt, B.M. et al. (2020) 'Screening strategies for hypertension', *Cochrane Database of Systematic Reviews*, 2020(5). Available at: <https://doi.org/10.1002/14651858.CD013212.pub2>.