

A systematic review on the effectiveness of community health nurse-led home screening and lifestyle interventions on blood pressure control in rural low-resource communities

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DOI: 10.5281/zenodo.21393598

Abstract:

Hypertension is one of the most significant non-communicable diseases affecting populations worldwide and remains a leading contributor to cardiovascular morbidity and mortality. The burden of uncontrolled blood pressure is particularly high in rural and low-resource communities where limited access to healthcare services, inadequate health literacy, delayed diagnosis, and poor adherence to lifestyle modifications contribute to suboptimal disease management. Community Health Nurses (CHNs) play a pivotal role in addressing these challenges through home-based screening, health education, early detection, regular follow-up, and promotion of healthy lifestyle behaviours. Their close interaction with community members enables early identification of individuals at risk while facilitating continuous monitoring and long-term blood pressure control. This systematic review evaluates the effectiveness of Community Health Nurse-led home screening and lifestyle interventions in improving blood pressure control among adults residing in rural low-resource settings. The review synthesises evidence regarding the impact of nurse-led interventions on hypertension awareness, early diagnosis, treatment adherence, behavioural modification, and cardiovascular risk reduction. Evidence included in the review demonstrates that structured home visits, routine blood pressure monitoring, counselling regarding dietary modification, reduction of salt intake, regular physical activity, weight management, smoking cessation, moderation of alcohol consumption, medication adherence, and family involvement contribute positively to hypertension management. Furthermore, community-based interventions improve accessibility to healthcare services while strengthening continuity of care in underserved populations. Despite these positive findings, several barriers continue to influence programme effectiveness. Limited healthcare infrastructure, shortages of trained nursing personnel, inadequate community awareness, socioeconomic inequalities, transportation difficulties, and inconsistent follow-up remain important challenges in rural healthcare delivery. Nevertheless, the evidence consistently supports Community Health Nurse-led interventions as cost-effective and sustainable strategies for improving hypertension detection and long-term blood pressure control. Strengthening community nursing services, enhancing professional training, and integrating evidence-based screening programmes into primary healthcare systems may substantially reduce the burden of hypertension and improve cardiovascular health outcomes in vulnerable populations.

Keywords:

Hypertension; Community Health Nursing; Home Screening; Lifestyle Intervention; Rural Health; Systematic Review.