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SILENT PRESSURES: THE PUBLIC HEALTH THREATS OF UNDIAGNOSED HYPERTENSION IN NIGERIA

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ABSTRACT

Hypertension, often described as a “silent killer,” remains one of the leading modifiable risk factors for cardiovascular disease, stroke, chronic kidney disease, and premature mortality worldwide. Its burden is rising most rapidly in low- and middle-income countries, where health systems are least equipped to respond. Nigeria, Africa’s most populous nation, faces a particularly severe challenge. Current estimates indicate that approximately 36% of Nigerian adults are living with hypertension, yet awareness, treatment, and control rates remain critically low. As Nigeria undergoes rapid demographic growth, urbanization, and epidemiologic transition, the absolute number of individuals affected is projected to increase substantially, amplifying pressure on the health system and national workforce. This narrative review synthesizes peer-reviewed literature, national surveys, and global health reports published between 2010 and 2025 to examine the burden of undiagnosed and poorly controlled hypertension in Nigeria. We reviewed the trends, sociocultural and structural drivers, health system barriers, and public health responses within the Nigerian context. Evidence highlights the role of dietary transitions, physical inactivity, low health literacy, cultural misconceptions, and limited access to affordable primary care in sustaining the epidemic. The review suggests that effective responses must extend beyond individual behavior change to include community-based screening, workplace health programs, culturally tailored education, sodium reduction strategies, and strengthened primary healthcare delivery, hence framing hypertension as a shared public health and development challenge, rather than solely an individual clinical condition, is essential for reducing preventable morbidity and mortality, protecting workforce productivity, and supporting Nigeria’s long-term health and socioeconomic development.

Keywords: *hypertension, public health, Nigeria, primary healthcare, cardiovascular disease*

INTRODUCTION

Hypertension is a chronic, non-communicable condition characterized by persistently elevated blood pressure, commonly defined as systolic blood pressure ≥130 mmHg or diastolic blood pressure ≥80 mmHg (1). When left untreated, it progressively damages blood vessels and vital organs, increasing the risk of stroke, heart failure, coronary artery disease, chronic kidney disease, and premature mortality (2). Because it is often asymptomatic until complications arise, hypertension has earned the reputation of a "silent killer," carrying serious consequences for both individual health and wider society.

Globally, more than 1.3 billion people are living with hypertension, with the majority residing in low- and middle-income countries (3). While many high-income nations have achieved modest improvements in detection and control through sustained public health interventions, prevalence and complications continue to rise across sub-Saharan Africa. Nigeria exemplifies this growing disparity, as Africa's most populous country, it carries a disproportionate share of the region's cardiovascular disease burden. Recent national and multinational surveys estimate that approximately 36% of Nigerian adults are living with hypertension (4), yet more than half remain unaware of their condition, fewer than one-third receive treatment, and fewer than one in ten achieve adequate blood pressure control (5).

Nigeria's vulnerability is shaped by a convergence of demographic, social, and health system factors. Rapid urbanization, dietary shifts toward sodium-rich and ultra-processed foods, declining physical activity, and increasing occupational stress have accelerated hypertension risk across both urban and rural settings (5,6). At the same time, Nigeria's high fertility rate and youthful population structure create strong population momentum, meaning that even modest increases in age-specific prevalence will translate into a rapidly expanding absolute number of adults living with hypertension in the coming decades (6). This demographic trajectory threatens to intensify demand for long-term cardiovascular care in a health system that has already been constrained by limited infrastructure, workforce shortages, and heavy reliance on out-of-pocket payments.

Beyond individual risk factors, structural and sociocultural barriers play a central role in sustaining undiagnosed and poorly controlled hypertension in Nigeria. Limited routine screening at primary healthcare facilities, low health literacy, cultural misconceptions regarding the causes of hypertension, and inconsistent access to affordable medicines undermine prevention and continuity of care. As a result, hypertension frequently remains undetected until

individuals present with severe complications, imposing avoidable costs on households, health services, and national productivity.

AIM OF THE STUDY

This report highlights hypertension as an under-recognized public health emergency in Nigeria, drawing attention to misconceptions surrounding the condition. Using a narrative synthesis approach, it reviews peer-reviewed literature and national reports to examine the scale of the problem, analyze its drivers, and evaluate existing responses. It provides evidence-based insights that can inform targeted strategies for improved prevention, early detection, and sustainable control of hypertension in Nigeria.

METHODS

This narrative review was conducted using peer-reviewed literature published between 2010 and 2025, alongside reports from global health agencies and national surveys. Sources were identified through searches of PubMed, Scopus, Google Scholar, and World Health Organization databases. Articles were included if they addressed hypertension prevalence, risk factors, awareness, treatment, control, or health system responses in Nigeria or comparable low- and middle-income settings. Opinion pieces and studies lacking methodological transparency were excluded.

UNDIAGNOSED HYPERTENSION AS A PUBLIC HEALTH RISK

Evidence from national surveys and multinational screening initiatives consistently demonstrates a high and persistent burden of hypertension in Nigeria, with undiagnosed hypertension constituting a critical public health threat and posing grave consequences for both individual and population health. Essential workers, including drivers, teachers, healthcare providers, law enforcement officers, and airline personnel are particularly vulnerable, as uncontrolled blood pressure can impair cognitive performance, reaction time, and decision-making. These impairments increase the risk of occupational accidents, medical errors, and workplace incidents, with implications for public safety and workforce productivity (7). National data indicate that more than 50% of Nigerians living with hypertension remain unaware of their condition, while only a small proportion achieve recommended treatment and control targets (4,5). This diagnostic and treatment gap translates into a substantial burden of preventable cardiovascular disease, stroke, renal complications, and premature mortality.

SOCIAL, CULTURAL, AND STRUCTURAL DRIVERS OF HYPERTENSION IN NIGERIA

The burden of hypertension in Nigeria is shaped by a complex interplay of social, cultural, and structural determinants. Rural populations have historically exhibited approximately 26% lower prevalence compared with urban counterparts, largely attributable to healthier dietary patterns and higher levels of physical activity. However, this rural-urban gap is narrowing as rural communities increasingly adopt urbanized diets and sedentary lifestyles (8). Gender-related differences are also evident: women demonstrate slightly higher rates of diagnosis (51% vs. 42%) and treatment (30% vs. 27%) than men, although overall blood pressure control remains suboptimal for both sexes (11% vs. 9%) (5). Lower engagement with preventive healthcare among men contributes to delayed diagnosis, whereas women are more likely to achieve improved control once treatment is initiated.

Moreover, Nigeria's vulnerability to a disproportionate hypertension burden compared with other countries in the West African region can be amplified by its rapid population growth and high fertility – with one of the highest total fertility rates in the world, estimated at around 5.3 births per woman, Nigeria's population continues to expand quickly, and is projected to approach or exceed 400 million people by 2050, making it one of the world's most populous countries (9). This sustained demographic momentum means that even if age-specific hypertension prevalence remains stable, the absolute number of adults at risk will rise sharply over time, intensifying demand for health services and complicating efforts to detect and control hypertension at a population level. Consequently, strategies effective in smaller, slower-growing countries may be insufficient in Nigeria without explicit consideration of population scale, fertility dynamics, and associated health system pressures.

Lifestyle changes associated with rapid urbanization have further accelerated the hypertension epidemic in Nigeria; increased consumption of sodium-rich diets, combined with low intake of potassium-rich fruits and vegetables and rising levels of physical inactivity, has substantially contributed to the development and progression of hypertension (10,11). On average, Nigerians consume approximately 5.8 grams of salt per day, exceeding the World Health Organization's recommended maximum of 5 grams (10). This risk is further amplified by widespread reliance on processed foods, seasoning cubes, and salted traditional dishes, which collectively elevate population-level sodium exposure. Excessive sodium intake has been associated with an estimated 25% increased risk of hypertension in Nigeria and poses a significant challenge to prevention efforts (11).

Traditional diets rich in whole grains, legumes, and vegetables are increasingly being displaced by ultra-processed foods high in refined sugars, trans fats, and sodium (11). These dietary shifts promote obesity, insulin resistance, renal dysfunction, and heightened salt sensitivity, all of which contribute to elevated blood pressure. Food insecurity further exacerbates this challenge, as many households depend on low-cost, nutrient-poor foods that increase metabolic risk and limit opportunities for healthier dietary choices (12).

Additional drivers include physical inactivity, occupational stress, and alcohol consumption. Approximately 27% of Nigerian adults lead sedentary lifestyles (5), while long working hours and irregular schedules encourage reliance on calorie-dense, high-salt meals. Occupational stress has been shown to substantially increase the risk of hypertension, and alcohol consumption further compounds this risk. Structural features of the built environment, particularly urban designs that discourage walking or cycling, present additional barriers to physical activity and cardiovascular health (13).

Low health literacy and persistent cultural misconceptions continue to undermine both prevention and long-term management of hypertension. Many individuals attribute hypertension primarily to stress, aging, or spiritual causes, limiting proactive health-seeking behavior and adherence to treatment (14). Only about one-quarter of adults demonstrate adequate knowledge of beneficial lifestyle practices related to blood pressure control (15). Routine screening is often absent in primary healthcare settings due to shortages of trained personnel and functional equipment (16). Financial barriers, particularly the heavy reliance on out-of-pocket healthcare payments, further reduce access to consistent treatment and medication adherence (17). Weak patient-provider communication, compounded by healthcare workforce shortages, contributes to poor follow-up, fragmented care, and relapse into uncontrolled blood pressure (18,19).

RECOMMENDATIONS FOR TARGETED PUBLIC HEALTH ACTION

Addressing the burden of hypertension in Nigeria requires a comprehensive, coordinated, and multi-level public health response. Community-based screening initiatives should be expanded to include routine blood pressure measurements in commonly accessed settings such as markets, transport hubs, religious institutions, and workplaces. The deployment of mobile clinics would be particularly important for reaching underserved and hard-to-reach populations, especially in rural and peri-urban areas. In addition, occupational health programs should be integrated into high-risk professions to ensure regular screening, stress management, and lifestyle counseling.

Culturally tailored health education campaigns are equally critical, as information dissemination in local languages through radio, television, social media, and trusted community leaders can help dispel myths, reduce stigma, and promote healthier behaviors. These campaigns should emphasize that hypertension is neither an inevitable consequence of aging nor solely the result of stress, but a preventable and controllable condition. At the organizational level, workplace wellness programs can support healthier dietary choices, encourage physical activity, and mitigate stress. Flexible work arrangements and on-site wellness initiatives may further enhance engagement and sustainability.

Policy interventions must address the broader structural determinants of hypertension – priority actions should include improved access to affordable, heart-healthy foods through subsidies, regulating ultra-processed foods via taxation and clear nutritional labeling, and strengthening primary healthcare infrastructure. Sustained investments in healthcare workforce training, standardized treatment protocols, functional diagnostic equipment, and affordable antihypertensive medicines are essential for long-term control. Finally, robust monitoring and research systems are needed to strengthen national surveillance to improve tracking of hypertension trends, facilitate evaluation of ongoing interventions, and guide adaptive policy development. Building local research capacity will also ensure that strategies remain evidence-based and context-specific.

STUDY LIMITATIONS

This review has several limitations – as a narrative synthesis, it does not employ systematic review methodology and may therefore be subject to selection bias. In addition, heterogeneity in study designs, populations, and measurement approaches limits direct comparability across data sources. Nevertheless, the convergence of findings from multiple national surveys and regional studies lends credibility to the overall conclusions and supports their relevance for public health action.

CONCLUSION

Undiagnosed and poorly controlled hypertension in Nigeria represents a silent yet rapidly escalating public health crisis. Driven by dietary transitions, occupational stress, cultural misconceptions, and systemic healthcare gaps, the condition threatens population health, national productivity, and long-term socioeconomic development. Addressing this challenge demands sustained, multi-level action that extends beyond individual behavior change.

Expanding community and workplace screening, delivering culturally sensitive health education, implementing comprehensive workplace wellness initiatives, and enacting systemic healthcare reforms are all essential components of an effective response. Policy measures aimed at improving dietary environments and strengthening primary healthcare delivery must complement these efforts. Ultimately, reframing hypertension as a shared public health and development priority, rather than a purely individual medical problem, is critical. By doing so, Nigeria can reduce preventable morbidity and mortality, protect workforce productivity, and secure a healthier and more resilient future.

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