

Hypertension Awareness and Control among Breast Cancer Survivors in Africa: An Emerging Priority for Integrated Survivorship Care

Nasira A. Sitar

Department of Pharmacy Kampala International University Uganda
Satar.nasira@studwc.kiu.ac.ug

ABSTRACT

Breast cancer survivorship is increasing in Africa as detection, treatment, and survival improve, while hypertension remains widespread and poorly controlled. Survivors may face heightened cardiovascular risk because of ageing, obesity, inactivity, existing cardiometabolic disease, treatment-related cardiac injury, fragmented follow-up, and limited preventive care. This review examines hypertension prevalence, awareness, treatment, and control among African breast cancer survivors, together with biological, behavioural, socioeconomic, treatment-related, and health-system determinants. Although survivor-specific evidence is limited, hypertension was present in 32.2% of 2,189 newly diagnosed women across five sub-Saharan African countries, ranging from 14.9% in Uganda to 50.5% among non-Black Namibian participants. Cancer therapies such as anthracyclines, HER2-targeted agents, radiotherapy, and some endocrine treatments may compound the effects of uncontrolled blood pressure. Major barriers include costs, medicine shortages, limited cardio-oncology expertise, competing priorities, and weak oncology-primary care coordination. Routine survivorship care should therefore include blood-pressure screening, risk assessment, education, affordable treatment, monitoring, and African research.

Keywords: hypertension; blood-pressure control; breast cancer; cancer survivors; cardio-oncology; Africa; survivorship; noncommunicable diseases

INTRODUCTION

Breast cancer is an increasing public health challenge among African women, driven by population growth, ageing, urbanisation, lifestyle changes, and improved detection. Survival remains lower than in high-income countries because many women are diagnosed late and face limited screening, specialist care, treatment facilities, and high costs. As more women survive, care must address long-term physical, psychological, social, and cardiovascular needs [1]. Hypertension is especially important because it is common, often symptomless, easily detected, and treatable, yet awareness, treatment, and control remain poor across Africa. Breast cancer survivors may face greater cardiovascular risk due to shared factors such as obesity, inactivity, unhealthy diets, ageing, and socioeconomic disadvantage, as well as treatment-related effects from chemotherapy, radiotherapy, and hormonal therapy [2]. Effective care requires routine blood-pressure screening, patient education, affordable medicines, adherence support, follow-up, and coordination between oncology and primary-care services to overcome fragmented care, financial barriers, transport problems, medicine shortages, and limited health literacy. Hypertension is a major preventable cause of cardiovascular and kidney disease, disability, and premature death, with particularly serious consequences for breast cancer survivors who may face added cardiovascular risks from ageing, shared risk factors, and cardiotoxic treatments [3]. However, evidence on hypertension awareness, treatment, adherence, and control among African breast cancer survivors remains limited and fragmented. Many studies report prevalence without assessing diagnosis, medication use, consistency, or blood-pressure control. This knowledge gap hinders effective policy and integrated care, allowing hypertension to remain undetected or poorly managed. Synthesising available evidence is therefore essential to identify care gaps and guide context-appropriate survivorship interventions [4]. This study reviews evidence on hypertension awareness, treatment, medication

adherence, and blood-pressure control among African breast cancer survivors. It examines individual, clinical, socioeconomic, treatment-related, and health-system factors affecting detection and management, while identifying knowledge gaps and priorities for practice, policy, and research. The study is important because survivorship care in Africa must address cardiovascular risks alongside cancer recurrence. Its findings may promote routine blood-pressure screening, coordinated multidisciplinary care, reliable access to medicines, patient education, adherence support, and systematic monitoring. Ultimately, improved hypertension management could reduce cardiovascular complications, enhance quality of life, protect cancer-treatment gains, and strengthen person-centred survivorship care continent-wide.

Scope and Approach of the Review

This review uses a narrative synthesis to examine hypertension, breast cancer survivorship, cardiovascular risk, and health-system performance in Africa. It prioritizes evidence from multicountry African studies, population-based hypertension research, African breast cancer cohorts, international cardio-oncology guidance, and survivorship literature relevant to resource-limited settings. Since few studies directly report hypertension awareness and control among African breast cancer survivors, the review combines three related bodies of evidence: hypertension prevalence and multimorbidity among African women with breast cancer; hypertension awareness, treatment, and control in the wider African population; and international findings on cardiovascular risk and blood-pressure management among breast cancer survivors. By integrating these sources, the review identifies clinically important patterns and gaps in care while maintaining caution in interpretation. In particular, it recognizes that hypertension estimates from the general population may provide useful context but cannot be assumed to reflect the experiences, treatment needs, or outcomes of African breast cancer survivors accurately.

The Burden of Hypertension among African Women with Breast Cancer

Hypertension is a common comorbidity among African women with breast cancer. In the African Breast Cancer–Disparities in Outcomes study of 2,189 diagnosed women across five countries, 32.2% had pre-existing hypertension, with prevalence ranging from 14.9% in Uganda to 50.5% among non-Black women in Namibia. Hypertension ranked among the two most common chronic conditions in every country, alongside obesity, which affected 34.8% of participants [5]. More than one-quarter had at least two additional chronic diseases, and multimorbidity was especially common among older women. The likelihood of hypertension nearly doubled with each ten-year increase in age. These patterns complicate cancer treatment because hypertension often coexists with obesity, diabetes, HIV, and other conditions. Country-level differences suggest that continental averages may hide important inequalities in risk, diagnosis, and care. The true burden may be underestimated because many studies rely on previous diagnoses rather than repeated standardized blood-pressure measurements, while treatment-related stress can also cause temporary elevations [6].

Awareness, Treatment, and Control: an Important Evidence Gap

Hypertension prevalence alone does not show whether breast cancer survivors receive effective care. Assessment requires four linked indicators: awareness of diagnosis, receipt of antihypertensive treatment, adherence to medication, and achievement of blood pressure control. However, African breast cancer studies rarely report all four, often listing hypertension only as a baseline comorbidity without examining prior diagnosis, treatment adequacy, control before chemotherapy, or follow-up during survivorship [7]. African evidence indicates poor hypertension management. Reviews report high prevalence but low diagnosis, treatment, and control, driven by limited detection, inadequate care, urbanisation, ageing, obesity, unhealthy diets, and physical inactivity. Although women may be more aware of hypertension through frequent health-service contact, awareness does not ensure control. In a 37-country analysis, women had higher awareness than men, yet only 7.3% achieved controlled blood pressure. This is especially concerning for breast cancer survivors, who may attend oncology clinics regularly while other chronic conditions remain systematically insufficiently managed [8].

Why Breast Cancer Survivors are Particularly Vulnerable

Breast cancer survivors are especially vulnerable to hypertension and cardiovascular disease because cancer and high blood pressure share major risk factors, including ageing, obesity, inactivity, unhealthy diets, alcohol use, and metabolic dysfunction. Treatment may further increase risk through fatigue, weight gain, premature menopause, changes in body composition, and prolonged endocrine therapy, all of which can worsen blood pressure, glucose control, and lipid levels [9]. Pre-existing hypertension can also magnify the cardiac effects of anthracyclines, trastuzumab, and chest radiotherapy by increasing vascular strain and reducing cardiovascular reserve. In turn, treatment-related heart damage may make uncontrolled hypertension more clinically significant and sometimes require cancer therapy to be delayed or changed. Long-term endocrine treatment can alter metabolism, body composition, bone health, and cardiovascular risk, making continued primary-care follow-up essential [10]. Ageing, menopause, and multimorbidity further increase vulnerability, especially where hypertension coexists with diabetes, obesity, kidney disease, HIV, cardiac dysfunction, psychological stress, and substantial financial hardship.

Barriers to Hypertension Awareness and Control

Hypertension awareness and control among people undergoing or surviving cancer treatment are hindered by several interconnected barriers. Cancer care often takes priority, causing elevated blood pressure to be overlooked, attributed to stress, or inadequately followed up. Fragmentation between oncology and primary care creates uncertainty about responsibility, especially when treatment summaries and survivorship plans are absent. Accurate diagnosis is also limited by inadequate equipment, poor measurement conditions, and restricted access to home or ambulatory monitoring [11]. Financial hardship from cancer treatment, medicine stock-outs, clinic fees, and laboratory costs can disrupt antihypertensive therapy. Limited health literacy and the asymptomatic nature of hypertension may reduce adherence, while fears about drug interactions and use of herbal remedies add risk. Psychological distress, fatigue, pain, poverty, and reduced physical activity further undermine self-care. Finally, shortages of trained staff, cardiology services, diagnostic tools, referral pathways, and primary-care systems continue to weaken long-term hypertension management across many African settings [12].

Clinical Implications

All women diagnosed with breast cancer should receive cardiovascular assessment before treatment, including repeated blood-pressure checks, cardiovascular and medication history, adiposity assessment, review of antihypertensive adherence, and renal, electrolyte, ECG, or cardiac imaging tests when indicated. A single raised clinic reading should be confirmed unless it is severe or associated with acute organ injury [13]. During cancer therapy, blood pressure should be monitored at treatment transitions and systemic-therapy visits, with frequency based on baseline risk, comorbidities, treatment regimen, and access to follow-up. Persistent hypertension should be investigated, including reversible causes such as pain, corticosteroids, NSAIDs, excess sodium, anaemia, kidney dysfunction, and non-adherence. Severe hypertension with neurological, cardiac, pulmonary, renal, or visual symptoms requires urgent evaluation and coordinated treatment decisions [14]. After acute cancer care, survivorship plans should clearly document hypertension history, medications, cardiotoxic exposures, relevant test results, monitoring needs, warning symptoms, responsibility for long-term cardiovascular management, and ongoing health promotion measures.

Strategies to Improve Awareness and Control

Improving hypertension awareness and control among cancer patients requires integrating blood-pressure care into routine oncology services through standard measurement, clear response protocols, and timely treatment or referral. Task-sharing with nurses, pharmacists, and community health workers can expand counselling, monitoring, medicine refills, and follow-up, especially where physicians are scarce [15]. Cancer centres should connect survivors with existing primary-care, HIV, diabetes, and other chronic-disease platforms rather than create isolated programmes. Reliable access to affordable, quality-assured antihypertensive medicines, supported by simple treatment protocols and attention to comorbidities and drug interactions, is essential. Patients need repeated, culturally appropriate education on the silent nature of hypertension, lifelong treatment, adherence, home monitoring, and family support [16]. Lifestyle advice should be realistic, affordable, and tailored to treatment-related limitations, emphasizing reduced salt, tobacco and alcohol avoidance, healthy diets, weight control, and safe physical activity. Mobile reminders, telephone follow-up, and electronic registers can strengthen continuity, but they should support, not replace, medicines, trained staff, referral systems, and in-person clinical assessment.

Research Priorities

The review's central conclusion is that evidence on hypertension among African breast cancer survivors remains limited. Future research should use standardised measures to determine how many survivors have undiagnosed, untreated, uncontrolled, or controlled hypertension and how outcomes differ by geography, residence, age, socioeconomic status, cancer stage, and treatment exposure [17]. Studies should examine whether blood pressure worsens during chemotherapy, endocrine therapy, or transitions to primary care, and identify barriers such as poor diagnosis, clinical inertia, medicine costs, stock-outs, non-adherence, treatment toxicity, and inadequate follow-up. Researchers should assess whether uncontrolled hypertension contributes to treatment interruption, cardiotoxicity, stroke, heart failure, or mortality. Prospective cohorts should repeatedly measure blood pressure with validated devices and collect data on treatment, adherence, cardiovascular outcomes, kidney function, obesity, diabetes, HIV, and socioeconomic conditions. Implementation studies must test affordable, scalable, acceptable, and locally sustainable care models, including integrated clinics, nurse-led services, community health workers, mobile support, and fixed-dose therapies [18].

Policy Implications

National cancer-control strategies should integrate cardiovascular health into survivorship care, while hypertension programmes should explicitly address the needs of people living with and beyond cancer. A basic policy package should require blood-pressure checks at diagnosis and throughout treatment, establish clear referral and treatment protocols in oncology settings, and ensure cancer centres procure affordable

antihypertensive medicines and validated blood-pressure devices [19]. Survivorship plans should connect oncology services with primary care, while oncology nurses and clinicians should receive training in cardiovascular risk management. Cancer registries and clinical audits should also track major comorbidities and cardiovascular outcomes, supported by regional cardio-oncology referral networks and financial-protection mechanisms covering both cancer and chronic-disease care. These reforms do not require specialised cardio-oncology units in every facility. Much of the avoidable burden can be reduced through accurate blood-pressure measurement, clear clinical accountability, affordable treatment, patient education, coordinated care, and dependable long-term follow-up across health services for all patients [20].

CONCLUSION

Hypertension is highly prevalent among African women with breast cancer, yet awareness, treatment, and control during survivorship remain poorly understood. Evidence suggests that about one-third may have hypertension at diagnosis, while broader African data reveal major gaps between detection and effective management. Cardiovascular risk is further increased by obesity, ageing, multimorbidity, cardiotoxic cancer therapies, treatment-related lifestyle changes, and fragmented health systems. As breast cancer survival improves, uncontrolled hypertension could reduce the benefits of successful cancer treatment by increasing preventable cardiovascular disease. Blood-pressure management should therefore be integrated into routine breast cancer care and survivorship programmes. Key strategies include regular screening, patient education, standardized treatment protocols, reliable access to medicines, task-sharing, and coordinated follow-up. African researchers must also generate stronger evidence on hypertension awareness, adherence, treatment, control, and cardiovascular outcomes among breast cancer survivors to guide context-specific cardio-oncology services and improve long-term health outcomes across the continent for patients and communities.

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