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Healthcare providers and policymakers' perspectives on enablers and barriers to hypertension management in Ghana: a qualitative study

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Abstract

Background Effective management of hypertension is crucial for reducing its burden, yet significant gaps remain in achieving optimal blood pressure control in Ghana. Therefore, understanding the perspectives of key stakeholders including healthcare providers and health policymakers is essential for identifying barriers and enablers to hypertension management. Using the chronic care model, this study aimed to explore the perspectives of healthcare providers and policymakers on the barriers and enablers to effective hypertension management in Ghana.

Methods We conducted in-depth interviews with healthcare providers (n = 18) and health policymakers (n = 4) involved in hypertension patient care and policy formulation and implementation respectively. Interviews were transcribed verbatim and analysed thematically using NVivo to generate themes and subthemes.

Results Three main themes were related to barriers: government level barriers, healthcare provider institutional barriers and patient level barriers. Four themes namely, patient follow-up and education, policy and structural support, professional knowledge and training, and teamwork and collaboration emerged as enablers hypertension control.

Conclusion This study provides insight into the multifaceted barriers and enablers to hypertension management from the perspective of healthcare providers and policymakers. The findings emphasise the need for a comprehensive multistakeholder approach to address the complex challenges in hypertension management in Ghana's Ashanti region. We recommend that future research should evaluate the impact of community-based interventions on the management of hypertension using a multistakeholder approach.

Keywords Healthcare provider · Perceived barriers · Hypertension · Stakeholders · Perceived enablers

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1 Introduction

Non-communicable diseases (NCDs) have become a global health concern with hypertension (HPT) being the major risk factor for many of these conditions, alongside high reported mortalities, and catastrophic health expenditure [1]. HPT, though, a long-term condition, its greatest contribution is what it does to facilitate the onset and exacerbation of other NCDs, including cardiovascular disease, stroke, chronic kidney disease, and some types of dementia [2, 3]. Despite the availability of effective treatment for HPT, the condition remains poorly controlled in many low-and middle-income countries [4] including Ghana [5]. To improve its management requires a multifaceted approach that tackles barriers at the patient, healthcare provider and policy levels while leveraging on opportunities to enhance effective management.

Healthcare providers play a pivotal role in the diagnosis, treatment, and management of HPT [6]. Their compliance with clinical guidelines, access to resources, and available institutional support systems enable them to enhance quality of healthcare delivery to patients [6]. However, studies across various settings have unpacked systemic barriers affecting HPT management [7–10]. These studies highlight logistical gaps and lack of teamwork and collaboration [7–9, 11]. Other barriers identified were shortage of essential antihypertensive medications [7–9, 12], unsupportive work environment [7], and policy-level challenges [7, 13]. Additionally, shortages in healthcare providers [7, 9, 12], in-service/refresher training opportunities, provider-patient communication barriers, poor referral systems [7, 9], and large patient volumes [7, 8, 10] were also identified as barriers that affect the effective management of HPT. These foregoing findings are consistent with findings in Ghana [12–15]. However, the literature could delve deeper into the root causes like procurement policies, healthcare providers condition of service nuances, policy shortcomings, and supply chain inefficiencies to provide actionable insight [16]. Also, the literature highlighted provider-patient communication and teamwork and collaboration-level barriers to be inimical to effective HPT management. Evidence suggests that team-based care models that incorporate non-physician healthcare providers enhances blood pressure control [17, 18]. However, the studies failed to provide successful implementation of those models to offer practical solutions as well as investigate communication training programs or patient education initiatives that have proven effective in enhancing adherence. While unravelling barriers at the provider-level offers opportunities for in-depth analysis, unpacking available strategies and enablers that can help address these barriers will be beneficial to HPT management outcomes.

Given the critical role of policymakers in shaping healthcare delivery through guideline formulation and policy evaluation, their perspectives on barriers and enablers that impact on effective HPT management is essential [9, 13]. Extant literature suggests that policy-level barriers like limited task-sharing, poor integration of HPT prevention/control strategies into broader health policies, funding gaps in HPT control programmes affect HPT control efforts [7, 9, 13–15]. For instance, an evaluation of Ghana's health policies by Sambah et al. [15] point to poor policy integration towards a holistic HPT control. The study highlights poor resource allocations, non-involvement of HPT patients in policy processes and low task-shifting observed across the health policy space. This calls for opportunities for stakeholders to understand all the determinants of effective HPT management in Ghana.

Knowing the presence of barriers that affect HPT management is not sufficient if the appropriate enablers to attenuate their impact is not known. A number of studies have unpacked some enablers that facilitate HPT management efforts [8, 10, 15–17]. Some of these studies highlighted the provision of free, available, affordable and accessible healthcare services that incentivised effective HPT management within the settings [12, 19–21]. Though these enablers provide a glimmer of hope for HPT control, their context specific nature [19–21] (i.e., outside Ghana) and approach [12] (i.e. quantitative) limit their transferability and applicability to the Ghanaian setting.

Research works within Ghana have explored stakeholders' perspectives of barriers [9, 11–14] and enablers [12, 14] to effective HPT management. However, these studies have focused on peri-urban [13], and rural settings of Northern Ghana [9]. Others have only focused on HPT patients [14] and adopted quantitative approach [12]. The only study that explored stakeholders' perspectives in the present study setting [11], broadly explored all NCDs, patients and healthcare providers excluding policymakers, and concentrated on HPT management challenges and practices excluding enablers. The present study, therefore, fills this gap by exploring the management of HPT from the perspective of healthcare providers and health policymakers on their perceived barriers and enablers to patients' HPT management using the Chronic Care Model (CCM) [22]. The findings from this study are crucial for policy and practice as Ghana aims to reduce HPT prevalence by 25% by 2025 [7].

2 Conceptual framework

This study is from a larger mixed-methods project titled: An evaluation of progress towards achieving HPT control in Ghana: A study in the Ashanti region. The study is grounded in the CCM [22], developed to improve chronic illness treatment by exploring the role of stakeholders like healthcare providers, government, and patients in an overarching aim to improve disease outcomes. The CCM encompasses six constructs for which four of the constructs concern healthcare providers (i.e. "delivery system support", "health system organisation", "clinical information support", and "decision support") [22, 23]. The "self-management" component of the model relates to the patient, while the community resources and policy entails the government [22, 23]. This present study adopt these constructs: "delivery system support", "health system organisation", "clinical information support", and "decision support") to focus on healthcare providers while "community resources and policy" was adapted to focus on healthcare policies for which policymakers are integral in formulating policies to guide disease management [22, 23]. In the provision of healthcare to HPT patients, healthcare providers in Ghana do encounter barriers that affect quality healthcare delivery due to government inability to provide the needed support through policy and funding to address patients' health need [9, 13]. The CCM thus emphasize the interaction between government health policies, healthcare providers, and patient actions; with a focus on integrating clinical care, community resources, and health system factors to promote better chronic disease outcomes [22]. At both global [24–26] and Ghanaian contexts [11], the CCM has been validated and applied to analyse systemic factors that impact on HPT control outcomes, and is suitable for the present study. This study therefore utilises this model to explore enablers and barriers impacting on HPT control among healthcare providers and health policymakers in Ghana's Ashanti region.

3 Methods

3.1 Ethics approval

The study adhered to the principles in the Helsinki declaration [27]. The study protocol was reviewed and approved by three institutional review boards: the James Cook University (JCU) Human Ethics Committee (H9031), the Komfo Anokye Teaching Hospital (KATH) Ethical Review Committee (KATHIRB/AP/029/23), and the Ghana Health Service (GHS) Ethics Review Committee (GHS-ERC: 005/09/22). Besides, the Ashanti Regional Health Directorate also granted approval for the study. Prior to participation in the study, each participant was provided with a detailed explanation of the research objectives, aim and confidentiality measures put in place to safeguard their information. Both written and verbal informed consent were sought from the participants who were assured that their identities would not be connected to any research output. Participants were further assured of their right to withdraw from the study at any time without consequence.

3.2 Study setting and design

The Ashanti region (A/R) is an appropriate and crucial setting for the conduct of this study given the disproportionate burden of HPT in the region (25.9% of adults compared to the national average of 13.6%) [28]. The region is one of the most populous regions in Ghana [29]. The region is host to the second largest referral hospital (KATH) therefore treating and managing disease conditions that are beyond the secondary referral facilities of about seven geographic regions in Ghana [30]. Healthcare providers at this hospital are therefore exposed to clinical and out-patient conditions of HPT patients on admission and follow-up visit for the management of their condition. Their expertise and firsthand experience in managing HPT cases therefore offers the research team the opportunity to adequately assess their perspectives on the enablers and barriers to HPT management to help evaluate Ghana's progress towards HPT control and attainment of agenda 25% by 2025 [7]. Due to the contribution of policy to HPT management in Ghana, healthcare policymakers in the A/R were recruited as part of this broad study to assess policymakers' perspectives on barriers and enablers to HPT management to provide a holistic approach to HPT management.

This study is part of a larger project that evaluated Ghana's progress towards HPT control in the A/R. The study seeks to address the following objectives: To assess the extent of Ghana's adherence to the Pan-African Society of Cardiology (PASCAR's) 10-point action plan towards HPT control; To assess patient barriers affecting HPT control in Ghana; Evaluate government and health system barriers on HPT control in Ghana; Stakeholders perspectives on barriers and enablers to HPT control. The present study focuses on healthcare providers and policymakers' perspectives on barriers and enablers

impacting on HPT management in the Ashanti region of Ghana. The study adopted the descriptive qualitative design approach [31] and an inductive thematic analysis framework [32] to explore healthcare providers and health policymakers perceived enablers and barriers to HPT management. This design allows for a detailed examination of the participants' experiences, perceptions, and challenges in managing HPT patients' condition and formulation and implementation of healthcare policies towards HPT control. The study followed the Consolidated Criteria for Reporting Qualitative Studies (COREQ) guidelines [33]. More details are provided in the supplementary material (See Appendix 1).

3.3 Target population and sample

This study recruited eighteen (18) healthcare providers and four (4) policymakers. The healthcare providers were purposively selected through the identification of individuals representing the population during a pre-interview survey for the quantitative data collection phase as part of the broader objectives of this study, which has been published elsewhere [34]. For the health policymakers, they were purposively recruited via request through the regional director of health services, A/R. The sample size determination was guided by the principle of data saturation [35]. This principle stipulates a point where additional interviews/data collection efforts no longer reveal new information, suggesting additional sampling is not required [35]. The adequacy of this sample size aligns with Guest et al. [36] and Malterude et al. [37] studies that demonstrate that data saturation could be achieved with twelve (12) interviews [36] and between 10 and 20 participants [37]. The study included healthcare providers at KATH Internal and Family Medicine units who has direct management responsibility towards HPT patients either at out-patient department, HPT clinic or ward. These units are directly involved in the management of HPT patients and, therefore, the most relevant participants for the study. Their first-hand experience in the diagnosis, treatment, and management of HPT ensured that the study captured practical insights into real-world challenges and interventions. Also, only healthcare providers who participated in an earlier quantitative project as part of this study and consented to participate were included. The selection of participants from the earlier quantitative phase ensured continuity and coherence in the findings of this study. Including providers who had been involved in the initial quantitative survey helped to expose the participants to the study objectives and thus eliminated the redundancy in data collection and, most importantly, resulted in a more informed discussion of barriers and enablers affecting HPT management. Further, only healthcare policymakers in the A/R who have contributed to prior health policies and consented to participate were included. Policymakers who have actively contributed to health policies possess critical insights into systemic factors affecting HPT management. Their participation has ensured that the research captures the informed perspectives of policy gaps, implementation challenges, and potential improvements specific to the local healthcare system. Healthcare providers who did not participate in the quantitative study as part of this broad project and who do not work at either Family or Internal Medicines units of KATH were excluded. Likewise, healthcare policymakers who do not work in the A/R and those who have not worked in the region beyond a year were excluded. Exclusion of those with less than one year in service ensures that only those having at least substantial familiarity with the healthcare landscape of this region contribute to the study. This is because those with short service duration might not have been exposed long enough to the varied systemic challenges (i.e. infrastructure limitations, health consumables supply chain challenges), and patient-related obstacles (i.e. patient counselling nuances, medication compliance issues, follow-up etc.). More so, their few months on the job are usually adaptation periods with transient learning curve issues rather than established understanding of operational or systemic problems. Including them might provide biased or cursory data that fails to capture the richness of long-term problems.

3.4 Data collection

The interview guide was piloted among five (5) healthcare providers (i.e. two nurses, one medical doctor, one healthcare policymaker, and one pharmacists) who were excluded from the main study before data collection begun. No amendment was required for the instrument. The interviews were conducted face-to-face in English language by a trained RA (i.e. Master of Philosophy final year candidate with prior experience in qualitative data collection in health facility settings) and the first author (FS) at various locations including participants homes, participants office spaces, KATH HPT clinic, hospital premises and places convenient for participants and interviewer. With each participant's consent, the interview was digitally recorded. For clarity of concepts and for detailed information, probes were used where practicable. Also, to capture researcher reflections and participants' non-verbal cues, field notes were taken. The interviews lasted for 45 min on average.

3.5 Data analysis

As part of a broader project, this study adopted a descriptive qualitative study design [31] and an inductive thematic analytic framework [32] aimed to assess perceived enablers and barriers to HPT management in the A/R which has been published previously [34]. The data analysis process involved several steps to ensure rigor of the findings. After conducting the interview, the first author transcribed the audio recordings into text. To verify the accuracy of the transcripts, they were cross-referenced with the original recordings. The transcripts were then analysed thematically using NVivo version 12 (QSR International, Ltd., Daresbury Cheshire, UK) following the guidelines outlined by Braun and Clarke [38]. The use of inductive thematic analysis allowed the research team to derive patterns and themes directly from the data, avoiding the limitations of imposing pre-existing theoretical frameworks [32]. In particular, this process proved useful for research that investigates complex health behaviours and system-related factors to ensure findings are grounded in the actual experiences of the participants and not theoretical constructs.

The transcripts were analysed for major themes and points, with salient elements highlighted by the first author (F.S). Regular discussion within the research team took place to consider divergent interpretations of the data. Collaborative discussion with co-authors K.M.-R, A.S, and T.I.E assisted in the refinement of the analysis framework and thematic categorisation. The first author organised codes into overall themes, which the research team assisted grouping into thematic networks. The team, FS, K.M-R, A.S. and T.I.E checked the themes for coherence, that each theme describes the central trends of data. This entailed further analysis to investigate relationships among the themes and resulted in identifying relevant quotes that illustrated the themes and supported the findings. Any disagreements were worked through by dialogue, returning to the raw data, and ensuring that accounts presented were consistent with participants' narratives. Where necessary, K.M-R, who has expertise in qualitative health research, was consulted to offer an impartial perspective. Sub-themes were induced where necessary to capture subtleties in participants' experiences. The final themes were checked against the data set to ensure the findings were adequately and accurately represented. The team collectively agreed on the selection of quotes to ensure they accurately represented the themes derived from the data. Final themes were ultimately substantiated with verbatim statements, supported by relevant demographic details of participants including sex, age, and job description. Lastly, the methodological rigour of this study was upheld through ethics approval, participants recruitment, data collection, and analysis that enabled nuanced exploration of the participants perceived enablers and barriers to HPT management in the A/R of Ghana.

3.6 Trustworthiness and reflexivity

Strategies adopted in establishing trustworthiness included those outlined by Enworo [39]. These included credibility, dependability, confirmability, and transferability [39, 40]. The researchers applied varied approaches to ensure credibility. This included prolonged and extended engagement with participants over a longer duration within the study setting [41]. This process helped build trust and rapport with the participants, providing nuanced insights into their beliefs, experiences, provider-patients interaction culture and policy implementation nuances which could not have been possible on a brief interaction [42]. Bracketing techniques were employed in the planning, conducting, and reporting of this research to identify and address personal ideological assumptions held by the first author and potential influences on the study [43]. The research team was in constant contact throughout all stages in an effort to be transparent and to critically examine the effect of any such assumptions. This brought clarity during data collection and its analysis, thus, enhancing the quality of decision-making and finally strengthened the rigor of the findings [44]. To ensure dependability, the detailed study protocol guaranteed an audit trail of all the procedures related to the data collection and coding. Coding was checked for consistency by the research team members independently [45]. Confirmability was ensured through daily debriefing among the research team [42]. A qualitative health researcher who exerts a supervisory role in this project offered alternative perspectives and review of the interpretations and findings and that helped minimised personal and researcher biases [42]. The study ensured transferability through an elaborate description of its methodology, the study setting, inclusion and exclusion criteria, and the purposive sampling approach utilised [42].

The study adopted a number of strategies to reflexively minimise researcher assumptions, biases, and influences in the research process and findings [46]. This was achieved by keeping a reflexive journal, team debriefing, critical

self-analysis, participant validation, inclusive point of view, and ethical reflexivity [47]. On keeping a reflexive journal: the research team logged our feelings, thoughts, and decisions, which were discussed in an open manner to address any personal or collaborative biases [47]. Daily team debriefing sessions were held not only to discuss operational issues, but to have reflective logs of the research team interaction with participants and how they influenced the study, both real and assumed. Practices such as these heed recommendations by Berger [48] towards developing collaborative reflexivity among researchers. Again, ethical reflexivity was achieved through observing international ethical frameworks where participants' autonomy and sensitivities were guaranteed [49]. Lastly, seeking inclusive views through verification of themes and subthemes with the team tends to triangulate multiple viewpoints to eliminate individual researcher bias.

4 Results

4.1 Demographic characteristics of participants

The study included 22 participants comprising four (4) health policymakers, four (4) medical doctors, eleven (11) nurses and three (3) pharmacists. The majority of participants were Christians (20), with a higher academic qualification (17), females (15), Akans (17) and married (16). The participants had an average work experience of six (6) years and majority (15) of the healthcare providers were youthful with an age range between 25 and 40 years (See Appendix 2 for a summary of the background characteristics).

4.2 Themes generated from the data

An inductive thematic analysis revealed three major themes regarding barriers to patients' HPT management: (a) government level barriers; (b) healthcare provider institutional barriers; and (c) patient related barriers. In contrast four main themes on enablers to HPT management were generated: (a) Patient follow-up and education; (b) Policy and structural support; (c) Professional knowledge and training; and (d) Teamwork and collaboration. Each theme is discussed in detail, supplemented with illustrative quotes from the participants. See Fig. 1 for details.

4.3 Barriers to HPT management

4.3.1 Theme one: Government level barrier

The first theme identified from the data concerning barriers to HPT management was government level barrier. This theme comprises two sub-themes: Financial constraints and resource allocations, and infrastructure and policy implementation gaps. Participants shared their experiences on the healthcare system, the management of patients' condition and provision of care services. Most participants bemoaned that government lack of priority in the health sector constrains the sector of the needed investment in terms of material and human resources affecting the effective management of HPT. Majority of the participants decried the depraved nature of the national health insurance scheme as it lacks purpose to salvage patients' healthcare need during ill health.

4.3.2 Subtheme: Financial constraints and resource allocations

Participants expressed concerns regarding government lack of investment and political will to tackle HPT management. They pointed out that government diverting part of the NHIS funds to other government related expenditure instead of investing in human and material resources for the health sector shows it lack of priority for HPT management. Below is an excerpt reflecting an experience of a nurse participant.

> *"The issue is not about the guideline, but the unavailability of various resources from human, material and financial to effectively implement the guideline coupled with amending other health policies like the NHIS, and government…lack of good will towards hypertension care. You see, when a government decide to cap the health insurance fund, a statutory fund, it limits the money for health care financing. This is… lack of priority for citizens healthcare needs. I am so angry with some of these political decisions our governments make without recourse to the social contract they sign with us*

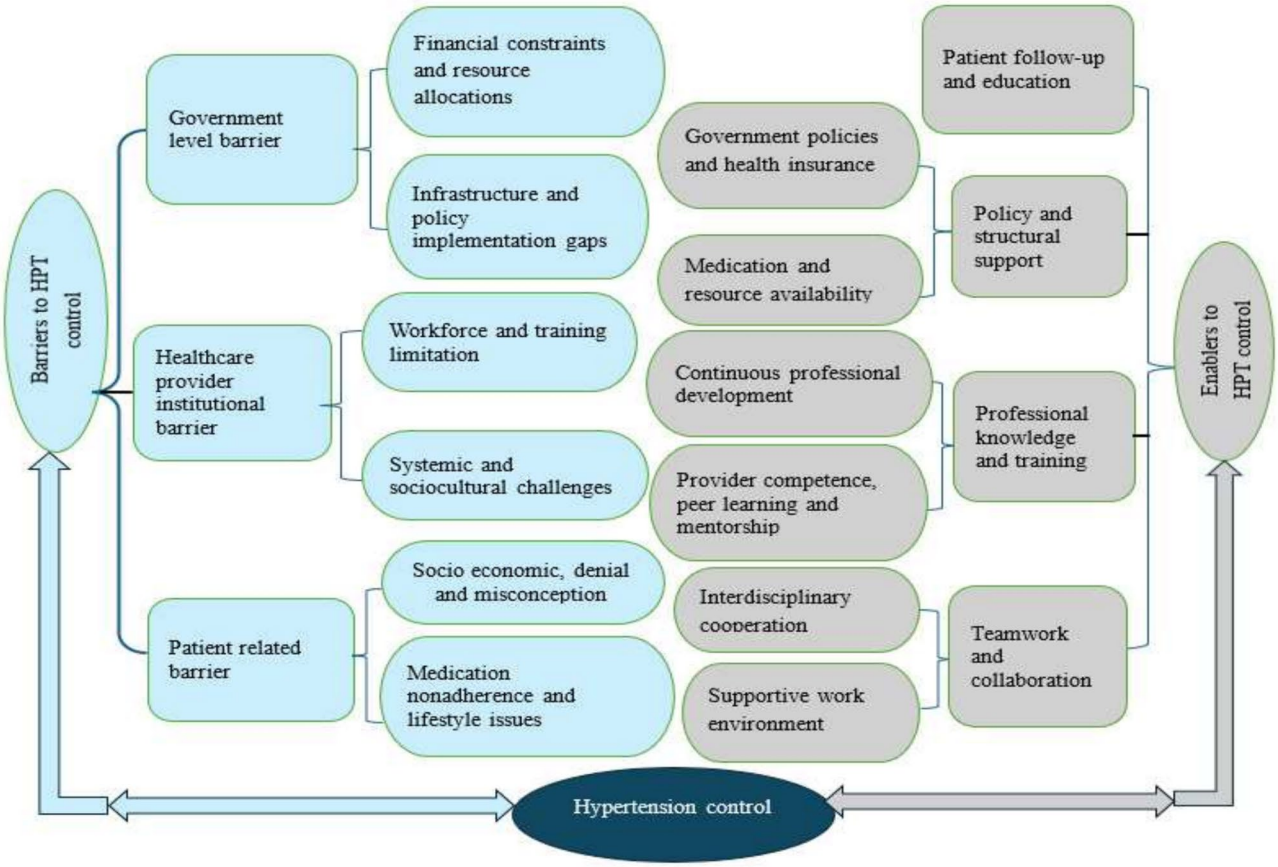

Fig. 1 Diagrammatic representation of the themes and subthemes

the citizens. So, you can have whatever guideline of roping in more patients into the care continuum for hypertension management, but lacking the necessary incentives to manage their conditions would still amount to nothing" [Female, Nurse, 32years].

While half of the participants were satisfied with the availability of antihypertensive medications at KATH, others disagree. Other providers could not fathom why antihypertensive medications should always be out of stock in government managed hospital like KATH knowing the critical need of the medication for patients' survival. This shortage, the other providers lamented, pushes patients to rely on out-of-pocket payments for essential medication at private pharmacies as well as indulging in unorthodox management, thereby undermining HPT control. A medical doctor who expressed his frustration as captured below, indicated that some of his patients occasionally returned to him in the consulting room to complain about medication shortages at the pharmacy.

"…the issue of antihypertensive drugs shortage is totally unacceptable. These are drugs government can easily support the big pharmacies in Ghana to produce locally so that it will always be available in the hospitals but that is not always the case. A drug that a patient is supposed to live on runs short, then it means we just want the patient to prepare for his/her death. I will say our drugs availability is about 50%. About 50% of hypertension patients get their medications. The rest go to the pharmacy outside to buy with additional cash top up." [Male, Medical Doctor, 37years].

4.3.3 Subtheme: Infrastructure and policy implementation gaps

Over half of the participants voiced their frustration with the appalling implementation of the NHIS policy which they indicated it is on an all-time low in terms of meeting the financial heath cover aspirations of chronic disease patients. Participants reported that some hospitals no longer accept the NHI, and even those who accept the insurance, the patients must make co-payments to access basic services that should be fully covered by the insurance.

"The health insurance used to be better than what we run currently. If you consider the health profile of hypertension cases and the management of the condition, the records clearly show a tipping down graph because the health insurance has gotten to a point where it only covers basic drugs and act like a subsidy. So, the patients have to co-contribute every step of the way for health services. Some hospitals don't even take health insurance anymore with the reason that health insurance claims do not come regularly yet the hospitals are expected to keep running. The poor patient who has paid his/her health insurance expecting care at critical times now comes to the hospital and has to be told to pay before treatment can commence. This is how bad we have come because of political deception and lack of leadership for this nation." [Male Pharmacist, 25years]

Other participants lamented about the poor planning of the built environment that is inimical to the prevention and management of HPT. They bemoaned that the lack of safe spaces for physical activity and the encroachment and privatisation of the few recreational parks are worrying developments that undermines HPT management efforts.

"Looking at our built infrastructure, I will hasten to criticize the planners of Greater Kumasi for the poor planning of our built environment. You see, getting the society/community we envisage all begins with thinkers and planners to execution. However, consistent over the period, people in authority over our affairs have not put the best interest of our present and future health into consideration when planning our built environment. Just look at the road network, parks/recreational centers. Even children parks that we used to know and play on when growing up, most have been sold out to private developers. Over 99% of our roads are not exercise friendly. Anyone who tries jogging or cycling, does so at his/her own peril. A lot is not right with our town and country planning system. The reason for the increasing NCDs is the lack of physical space for exercise fuelled by sedentarism, rapid urbanisation that have usurped our physical space for activities leading us to more of driving than walking and jogging. To be frank with you, we have failed in our built environment to control hypertension among others and the future is bleak for NCDs control not just in the Ashanti region but nationwide." [Male, Policymaker, 48 years]

Though healthcare providers applauded the health system for providing a digital electronic records platform that eases patient medical record keeping and retrieval, they cited the poor network infrastructure as an obstacle to quality health service delivery. They pointed to hours-long network outages that increase patients' waiting time for care services, leading to conflicts between healthcare providers and patients.

"Another worry is the digital electronic records platform, Lightwave Health Information Management System *[LHIMS] which the hospital has provided. It is a good platform but the challenges with erratic network failures where sometimes there wouldn't be network for patients records and medication records to be accessed. It is sometimes frustrating and a problem between patients and the healthcare team."* [Female, Nurse, 45years].

4.3.4 Theme two: Healthcare provider institutional barrier

Another significant barrier identified in the data pertains to institutional barriers among healthcare providers. Two subthemes emerged: workforce and training limitations, and systemic and sociocultural challenges, both of which adversely affect patients' HPT management outcomes. Over 80% of the participants expressed dissatisfaction with the current shortfall in qualified workforce due to the exodus of healthcare workers out of Ghana for greener pastures. Also, healthcare providers lamented about the current structure of the level of care relative to HPT where the primary care level has no care responsibilities for HPT patients but rather the secondary and tertiary levels.

4.3.5 Subtheme: Workforce and training limitations

Providers acknowledged the attrition of healthcare providers to foreign countries bereft the country of adequate and qualified workforce, widening the provider patient ratio with concomitant impact on HPT management. This situation they said affects other field works like outreach screening services and programmes.

"One cannot mention challenges without adding inadequate qualified health personnel across the various continuum of care. Our system needs cardiology nurses to compliment the physicians for the care of chronic conditions like hypertension. The nurse or doctor patient ratio is still wide and need to be fixed. With the short fall of nurses and medical practitioners due to the attrition outside Ghana for greener pasture, the workforce is inadequate and thus affect the field screening activities for hypertension among other health outreach programmes." [Male Policymaker, 48years].

A third of the participants bemoaned the lack of refresher training opportunities by the hospital. They indicated that gone were the days healthcare providers were always attending one workshop or the other either by the ministry of health or one partner agent in health. These they highlighted were always bringing providers to speed on patients' management, disease management and enhancing provider self-efficacy. One of the female nurses who have worked over ten years at different public hospitals before joining KATH had this to say,

"Hmmmm, my brother, the better days of Ghana Health Service is behind us. You are talking about workshops and refresher trainings; it was the order of the day. Well organised on various health conditions and so forth, with well paid allowances to go with. These workshops were supplementing our salaries and let me add, the deficits in our trainings at the health training institutions. I can confidently say that among the reasons for the rising HPT cases in Ghana is due to the lack of adequate refresher and motivation of the health worker thereby breeding mediocre, poorly capacitated and motivated worker. We need to go back to the good old days especially in this era of climate induced health conditions, nutrition transition and globalisation." [Female, Nurse, 45years].

4.3.6 Subtheme: Systemic and sociocultural challenges

The structure of the health system relative to provider care responsibilities towards patients was shared by participants as a disincentive to effective HPT management. A substantial number of the participants expressed that there are defects in the structure of the health system where providers at the primary health care structure (i.e. Community Health Planning and Services [CHPS]) are disconnected from managing HPT patients exposing patients to long travels to secondary and tertiary hospitals for disease management. This they reported as demotivating to patients, concentrating patients' pressure at higher levels of care which does not improve patients' health outcomes.

"Hypertension should not be a number one or among the worries of the health system if we had a well-structured and managed healthcare system. It is true we have structured levels as primary healthcare, secondary and tertiary, but what is to be seen or managed across the levels is still not properly streamlined. Imagine the number of patients and the distances they have to travel to come to Komfo Anokye for review? When they have CHPS, district hospitals closer to them as compared to Komfo Anokye. It is not helping patients' conditions management." [Female, Medical Doctor, 39years].

Another participant pointed to the health system overarching concentration on disease management over disease prevention as part of the barriers to the successful taming of HPT control in Ghana.

"Also, the concentration on biomedical management of hypertension is among the challenges affecting successful control." [Male, Policymaker, 48years].

A few of the healthcare providers mentioned sociocultural related challenges within the health fraternity that affect patients' quality service provision. Though this report is in the minority, it is worth reporting as one influence of such can lead to medical errors and poor patient satisfaction of services provided. Participants indicated that sometimes, family/relationship challenges, and other provider personal emotional/psychological instability affects their quality service delivery to patients. One of the nurses in-charge (i.e. leader of the nurses) indicated her experiences of a few of such in the wards between providers and patients only to sometimes discover her colleagues' healthcare providers were in the wrong. Her voice is expressly captured below,

"Yes, I have had cause to admonish a few of my colleague nurses privately due to over reaction with patients. majority of their conflict with patients have always been marital/relationship related challenges. That is divorced, broken heart, home conflict, family unmet needs. On many of those occasions when such issues come to my attention, I have always offered counselling, but you see, the harm has already been caused, and the patient will leave the hospital with a bad impression about the healthcare system and the providers. So, yes, it is a challenge, but not prevalent as I can say. I was trained in Cuba and worked a bit there before coming to Ghana. In their hospitals, there is always a clinical psychologist in the wards to scan the behaviour of all healthcare providers to identify potential psychological threats of such health workers and quickly provide attention to them. It is not the same in Ghana. So, we need to adopt best practices." [Female, Nurse, 45 years].

4.3.7 Theme three: Patient related barriers

This theme elucidates barriers emanating from HPT patients' personal self-management deficiencies as it pertains to pharmacological and non-pharmacological practices towards HPT control. Two subthemes emerged, socioeconomic, denial and misconception, and medication nonadherence and lifestyle issues. Almost all participants acknowledged the deficit in HPT patients' self-management efforts. A situation they said is largely contributing to the challenges in reducing uncontrolled HPT.

4.3.8 Subtheme one: Patients socioeconomic, denial and misconception

Many participants reported the appalling attitudes and behaviours of HPT patients towards self-management practices where patients continue to feed on misinformation about HPT.

"The challenge we have as part of the management of hypertension is misinformation and it is affecting BP management as most patients in desperation consume all such information ending up escalating their condition." [Male, Medical Doctor, 37years].

A pharmacist highlights how HPT patients who cannot afford treatment have to return home without a lifesaving medication like antihypertensive pills whereas those who are financially capable, top-up to get their refill. This exposes the detrimental role of patients' financial inequities and its negative impact on HPT management.

"Another challenge affecting the patients' self-management practices…is the continuing out-of-pocket payments or what I will say contributory financing of health despite patients' subscription to the insurance. So, patients who sometimes cannot afford financially has to go home without their medications." [Female, Pharmacists, 42years].

Other concerns raised by participants was the self-denial by patients to accept their diagnosis. To this more than half of the participants decried their experiences with first time patients diagnosed with HPT. They said many patients for the first time continue to reject the condition sometimes impugning the diagnostic processes. An excerpt from one participant is underscored hereto,

"The challenge confronting HPT management is patients' behaviour of denial. You tell a patient his/her condition is HPT and there is open rejection. Some upon education accepts and go on with the medication but others will appear to concede but will refuse to take the medication thinking the healthcare provider gave the wrong diagnostic only to return with worst complications." [Male, Medical Doctor, 33years].

4.3.9 Subtheme two: Medication nonadherence and lifestyle issues.

Another participant expressed worry about patients' inability to adopt lifestyle modifications that will support the management of their condition. Participants perceived that patients were denying their diagnostic results and refusing to adopt the needed lifestyle changes to aid the successful management of their HPT condition.

"As I enumerated earlier, patients' lifestyle modification challenges after they have been diagnosed with hypertension accounts for the challenges in managing hypertension. Most of them have refused to accept their new health situation and to adapt to the health education we give them about their nutrition, physical activity regimen, rest among others." [Male, Nurse, 32years].

Furthermore, participants assert that many patients are not adhering to their antihypertensive drugs regimen owing to combination with other herbal drugs. A situation bemoaned by a nurse participant that HPT patients present all manner of excuses just to default in the regular uptake of their medications.

"The patients themselves have inherent issues of poor self-management… Some are not adhering to their correct intake of their medication, some combining the orthodox drugs with traditional herbal medicines and some…default in…adhering to the correct and regular uptake." [Female, Nurse, 36years].

4.4 Enablers to hypertension control

Four key themes emerged as providers perceived enablers that enhance effective management of HPT: Patient follow-up and education, policy and structural support, professional knowledge and training, and teamwork and collaboration.

4.4.1 Major theme one: Patients follow-up and education

Patients on HPT management are engaged periodically through the schedule follow-up system by the hospital which offers healthcare providers and patients the opportunity to review progress and vitals for effective management of the condition. The key focus of this theme: patient follow-up and education was identified. Over half of the healthcare providers alluded that the follow-up system of the hospital is effective and contributing to patients HPT management. One nurse described what informed the scheduling of patients which she said is based on the severity level of the patient condition and progress in managing the condition, whether, mild, moderate or severe.

"The follow-up system at KATH is effective. The patients are scheduled based on the severity level of their hypertension. Those with high BP are monitored monthly in that order. But as the patients BP becomes controlled, six months follow up duration is given to the patients."… the follow-up visits offer the healthcare providers a chance to provide health education and counselling to the patients." [Female, Nurse 28years].

4.4.2 Major theme two: Policy and structural support

Two subthemes emerged: government policies and health insurance and medication and resource availability. This theme with its subthemes expresses the availability of healthcare policies and a supportive healthcare environment as an effective anchor for driving and incentivizing healthcare delivery for the desired national outcomes and citizens health. Even though there was no general consensus on this theme, over half of the participants belief government policies and structural support systems are contributing to the management of HPT though not adequate.

4.4.3 Subtheme one: Government policies and health insurance

Over half of the participants expressed the positive impact of government policies that has brought about the establishment of wellness clinics across government health facilities in Ghana as well as the cost reduction impact of the national health insurance policy.

"I can say that the policy has led to the establishment and continuous provision of wellness clinics across Ghana." [Male, Policymaker, 48years].

Another participant indicated that the NHIS policy has helped in subsidising health cost expenditure of patients thereby contributing to their disease management.

"We can say government through the national health insurance is helping to reduce health cost burden of patients" [Female, Nurse, 45years].

4.4.4 Subtheme two: Medication and resource availability

Managing HPT is a lifelong condition that involves the use of medications to lower the blood pressure by diminishing the sympathetic outflow from the vasomotor centre. To this, the availability of regular medications for adherence is crucial for control. About half (50%) of the healthcare providers confirmed that KATH most times have adequate antihypertensive drugs. To this, a nurse who work in the Family medicine HPT clinic adduced that a HPT patient came for review some days back with report of discomfort after taking her refilled antihypertensive medication. She had it changed at no cost as exhibited below.

"We have enough of the medications. Three days ago, for instance, a patient came for review, so we gave him medications. He came after taking the medication and said he started experiencing some unhealthy symptoms and due

to that the old drugs were changed, and he had a refill free of charge at the pharmacy. For the medications they are available most of the times." [Female, Nurse, 36years].

4.4.5 Major theme three: Professional knowledge and training

This theme highlights opportunities of professional growth and retraining within healthcare providers' work environment that enhances effective management of HPT. Two subthemes emerged: continuous professional development, and provider competence, peer learning and mentorship. The subthemes posit the contributory role of providers professional learning community (PLC), and peer learning opportunities available for transferring professional expertise across the work team for effective management of HPT.

4.4.6 Subtheme one: Provider competence, peer learning and mentorship

Participants indicated that providers job description, and years of work experience exposes them to various case managements, peer learning and mentorship that help contribute to provider confidence and ability to deliver quality health services to HPT patients. An excerpt from one of the participants is captured as follows,

"You see, the medical field encourages peer learning and mentorship. From horsemanship to full time practice as a medical doctor, I have had to do ward rounds with senior medical doctors and physicians where knowledge of patients' conditions is discussed. This not only builds the competence of young practitioners, but mentors the young practitioner as well. Similar situations are observed and practiced in the consulting room with our nurses. Nurses work with us in the consulting room and what we know about the patient condition is medically discussed, so, the nurses end up learning various diseases and case management which is good." [Male, Medical Doctor, 37years]

4.4.7 Subtheme two: Continuous professional development (CPD)

This theme explored available opportunities within the workplace for upgrading healthcare providers knowledge and care practices to enhance quality healthcare delivery to patients including HPT. All the participants reported that there are opportunities for peer knowledge sharing on disease management within the workspace. Also, workers such as medical doctors are given a day off for personal research and clinical practice development. This they indicated as essential and contributing to quality healthcare delivery in an evolving health industry.

"So, we have weekly clinical meetings, where sometimes we give presentations on hypertension current management and also have up to date on some of these management conditions which are provided by the hospital. And we are also giving opportunities to learn on our own. Because we are sometimes given a day off, you can use the days to also keep yourself up to date. So, to that extent, I can say there are opportunities to keep me up to date." [Female, Medical Doctor, 39years].

4.4.8 Major theme four: Teamwork and collaboration

This final theme identified two subthemes: Interdisciplinary cooperation, and supportive work environment. More than half of healthcare providers emphasised that there is a good working cooperation within the healthcare system ranging from nurses, medical doctors and pharmacist in the provision of care to patients.

4.4.9 Subtheme one: Interdisciplinary cooperation

Interdisciplinary collaboration involving nurses, medical doctors and pharmacists is crucial in attaining desired health outcomes of patients. To this, about 80% of the participants affirmed that the interdisciplinary collaboration among healthcare providers has helped prevent and minimised medical errors on patients. Another positive signal indicated by providers, is the role of experienced senior staff, coordinating and advising the junior staff during the provision of care to patients which has contributed to good health outcomes and confidence in providing care to HPT patients.

"I can also say that the senior staff among us help in guiding us with pep talks and other alternative ways to arrive at the same results possible. The collaboration with the medical team and other healthcare providers like the pharmacists sometimes help prevent major medical blemishes… for instance on some HPT patients case management and education,

the hospital nutrition department, the disease control unit, the physio unit depending on the case all come on board to manage our patients." [Female, Nurse, 32years].

4.4.10 Subtheme two: Supportive work environment

Participants also reported that the hospital as well as their professional fraternity help to create an enabling environment that supports and facilitates healthcare delivery to enhance the successful management of HPT. Participants highlighted the professional supportive environment as well as enabling administrative structures for reporting and addressing challenges within the workplace which goes a long way to aid providers in the daily work routines to patients.

"There are challenges but not the extreme that the healthcare provider cannot function as expected. The level of training I went through coupled with the availability of our professional learning community support, is able to insulate us against the barriers. As I said, the medical doctors support community is effective to enable us overcome workplace related stress. I will make do with what is available to the best of my ability for the patient, the rest should not be my worry. There are structures to report challenges through the HoD (i.e. head of department [HoD]. *So, knowing how to use the structures will ease the burden in the system. You don't have to carry the system challenges on your head."* [Female, Medical Doctor, 39years].

5 Discussion

Adopting the CCM [22], this study aimed to explore healthcare providers and policymakers' perceived barriers and enablers to HPT management in Ghana. Our findings identify three primary barriers: government-level barriers, healthcare provider institutional-level barriers, and patient-related barriers. Also, four enablers that enhances HPT management emerged: Patients follow-up and education, policy and structural support, professional knowledge and training, teamwork and collaboration. This emphasises the complexity of HPT management, where barriers outside the domain of the HPT patient influence patients' health outcomes. This necessitates understanding of these barriers and enablers to provide an opportunity to improve patients' health outcomes.

Our finding shows government level barriers significantly influenced healthcare providers ability to provide adequate care to HPT patients for the effective management of HPT. This is expected as previous literature in Ghana have cited the government of Ghana's inability to meet the needed investment targets in the health sector [50]. The subthemes supporting this finding reiterate financial constraints and resource allocations, and infrastructure and policy implementation gaps as pervasive in the healthcare sector and thus affect the healthcare providers' ability to manage HPT. Contrasting with extant literature in SSA, Otieno et al. [51] in Kenya, Green et al. [8] in Uganda, and Abaynew et al. [52] of Ethiopia confirmed our finding citing various government level barriers ranging from limited availability of medication and skilled personnel, health policy implementation gap and internet-level challenges. Similar studies in Asia [20, 53] and the Middle East [54] concur with the present finding. These similarities despite the geographic differences underscore the level of resource gaps within the low-to-lower-middle-income-countries of the world and the cascading effect on health service delivery towards HPT management. But what makes Ghana distinct from this Asian and Middle East nations is that Ghana's health funding budget of 8.2% Gross Domestic Product (GDP) is still below the 15% of the Abuja declaration [55], thus creating huge health infrastructure gap [14, 56]. Also, high human resource constraints of physician-to-patient ratio (0.2:1000) show healthcare provider deficit and high patient burden revealing unmet needs of patients' quality healthcare services [57, 58]. This makes managing HPT in the country inefficient. Similar studies [9, 12–14] within Ghana agree with the present study citing policy-level gaps relative to the NHIS, task-shifting and lack of willpower to enforce regulations. This finding is explained by the CCM that highlight the contributory role of community resources like policies, and the healthcare environment that enhance provider capacity for effective clinical decision-making towards disease control [22]. Addressing these problems requires simultaneously an increase in the national healthcare budget, implementing advanced policies, improving workforce planning, and advancing infrastructure development. By implementing these recommendations, Ghana will be enhancing the achievement of the Sustainable Development Goal [SDG] 3.4 and 3.8 [59] as well as the 25% reduction in uncontrolled HPT by 2025 [7].

Findings of the present study revealed policy and structural support as providers perceived enablers that can ameliorate the impact of government level barrier to HPT control. Healthcare providers and policymakers report that through national health policies, Ghana's Ministry of Health has established wellness clinics and provided free antihypertensive

medications under the NHIS, significantly improving access to care for hypertensive patients. This is a positive step relative to the CCM to bridge the healthcare delivery gap as the availability of these enablers will incentivise providers decision and delivery support framework for effective HPT control [22]. This finding aligns with previous research that highlighted government support of free healthcare services [20, 60], wellness and HPT clinics [12], and access to healthcare and policy support [14]. These similarities in findings across geographic landscapes indicate the growing interest and renewed commitment to addressing government-precipitated barriers to HPT control. Implementing these measures will ensure healthcare facilities are accessible, adequate with resources, and affordable for effective HPT management.

Additionally, healthcare provider and institutional barriers were identified to gravely affect healthcare providers' ability to manage HPT. Sub-barriers at this level include workforce and training limitations, along with systemic and sociocultural challenges that negatively impact healthcare providers' effectiveness in managing patients HPT. These provider-institutional barriers are concerning, as healthcare provider shortages, referral system deficiencies and providers' sociocultural incompetence continue to affect health services delivery to patients. These challenges undermine Ghana's achievement of the 25% HPT reduction/control by 2025 [7]. A situation that has overreaching clinical and policy implications for the success of HPT management campaign in Ghana. Similar studies elsewhere [20, 51] and in Ghana [12] support our finding citing provider institutional barriers like lack of skilled healthcare providers, limited refresher training of health cadres, and providers unsupportive behaviours affect patients HPT management outcomes. Even though the study had similarities with Nepal and Kenya [20, 51], the unique situation of Ghana demand discussion. This is because Ghana's healthcare sector is challenged with high workforce exodus coupled with health sector corruption and mismanagement [61–63]. Also, peculiar to Ghana is the issue of under investment in the health sector [55] and high patient-to-provider ratio thus increasing workforce burnout and low motivation [57, 58]. This situation requires urgent attention from stakeholders to review health worker emolument and conditions of service and establish robust systems to prevent corruption and resource wastage.

Despite these persistent barriers, our study identifies counterbalancing measures that offer promising solutions for policy adoption and healthcare implementation. For instance, enablers such as CPD, teamwork and collaboration, interdisciplinary cooperation, policy and structural support, and medication and resource availability as emerged from this study, can ameliorate healthcare provider institutional barriers to HPT management. Also, healthcare policymakers can be guided to ensure policy objectives and strategies encapsulate same to enhance effective HPT management when implemented. For example, where barriers like systemic and sociocultural challenges persist in a health system, encouraging provider teamwork and collaboration, and interdisciplinary cooperation among healthcare providers can foster team-based approaches. Having physicians, nurses, pharmacists and other healthcare team members collaborate can help overcome individual limitations. Furthermore, institutionalising CPD in the healthcare system has proven to yield clinical dividends by enhancing contemporary clinical knowledge and skills of providers, improve patient-provider communication, reduction of clinical inertia and promotion of lifestyle modification counselling [64, 65]. These benefits are particularly crucial in Ghana's resource-constrained setting where CPD serves as a vital tool for adapting to evolving treatment guidelines [14, 56–58]. Contrasting with extant literature, [20, 51] studies corroborate our finding, unmasking multisectoral partnerships of healthcare providers and provider capacity development as facilitators for HPT management. These similarities across the three countries underscore the impact of shared systemic challenges [14, 20, 51, 66]. This implies healthcare administrators, Ministry of Health officials, and health policymakers should incorporate these elaborate strategies into healthcare planning and service delivery to optimise both health system efficiency and patient treatment outcomes.

Lastly, healthcare providers perceived that patient-related barriers hamper provider effort at managing HPT. Patient-related barriers like socioeconomic, denial and misconception, and medication nonadherence and lifestyle issues are significant obstacles identified to impact optimal HPT management. Previous literature that concurs with our finding highlighted the influence of socioeconomic variables, such as limited access to healthcare and financial constraints on delays in diagnosis and treatment [14, 20, 52, 60]. Besides, extant literature accentuates the cascading effect of medication non-adherence and lifestyle modification challenges of HPT patients on their condition management which are in sync with the present study [13, 14, 20, 60]. Such opportunities in patients self-management practices are pivotal for effective HPT control. However, their absence continues to exacerbate the disease burden. The similarities in findings demonstrate, in part, the critical role of patient-related barriers to HPT management. They also highlight the pervasive impact of economic and social inequities on health outcomes, emphasising the need for integrated strategies that address both systemic and patient-related barriers. Again, the alignment of the findings across studies suggests these barriers are not isolated but rather endemic, requiring comprehensive, tailored solutions to enable healthcare providers and policymakers to mitigate their impact.

This study underscores the critical importance of patient engagement and community education as key strategies for overcoming these systemic barriers. Community level interventions, including culturally sensitive educational campaigns, and free health screenings can dismantle patient misconceptions and encourage proactive health behaviours. By providing reliable and relatable information, these initiatives can fill the gaps identified in earlier research which emphasise education but did not address its integration with socioeconomic realities [20, 52, 60]. Similarly, previous studies on HPT control have primarily focused on two aspects, medication adherence and lifestyle modification, while largely overlooking the practical challenges faced by newly diagnosed individuals [67, 68]. Based on this analysis, the inherent and context-specific challenges maybe best addressed throughregular follow-up with targeted educational programmes, an enabling strategy identified in our study. Treatment compliance is promoted through targeted interventions including adherence monitoring, healthy lifestyleworkshops and structured group activities. Follow-up routines are an important part of the healthcare system in managing patients with HPT. These follow-ups encompass blood pressure monitoring, treatment adherence assessments, and surveillance for potential medication side effects or complications. They also offer a chance for the education of patients on lifestyle modifications, like diet and exercise, that will support long-term health outcomes. Regular follow-ups ensure consistent patient-provider engagement facilitating early problem detection and thereby improved overall disease management.

6 Implications for policy and practice

This study has important implications for policy and practice in the management of HPT within the healthcare system of Ghana. First, the government of Ghana must be dedicated to strengthening health infrastructure and policy implementation through increased investment and budgetary allocation to HPT control programs. Secondly, the Ministry of Health and health administrators of the health facilities must ensure regular recruitment, staff rationalisation and regular capacity building of health staff on HPT management across all levels of the healthcare system. Thirdly, patient-related barriers including socio-economic, misconceptions related to HPT, default in medication adherence and lifestyle modification, raise the need for community-oriented interventions such as culturally sensitive education campaigns and free health screenings. Public and community health practitioners should develop appropriate behaviour change and HPT awareness campaigns targeted at patients' healthier lifestyle adoption, medication adherence and HPT control achievement. A multi-pronged approach addressing systemic, institutional, and patient-level barriers, while leveraging identified enablers, can significantly improve HPT management and control efforts in Ghana.

7 Strengths and limitations

One of the important strengths of this study includes its application of the CCM [22] that provided a robust framework from which to identify and analyze various barriers and enablers influencing the management of HPT in Ghana. The qualitative approach allowed for an in-depth exploration of healthcare providers' and policymakers' perspectives, offering nuanced insights into the systemic, institutional, and patient-level challenges. Moreover, the findings are enriched by the fact that the identified issues are in line with the reviewed literature, both local and international, which proves the relevance of the issues in low-to-middle-income countries. Despite the significance of the study to policy, practice, and literature, there are a few limitations worth acknowledging. The study is limited to qualitative data, a single region and tertiary referral health institution; the detailed information might not be transferable to other healthcare providers, as well as policymakers in Ghana. The possible respondents bias where health professionals and policymakers may have focused more on challenges than reporting the successes because of personal or institutional interests could exist.

8 Conclusion

This study thus brings to light the complex barriers and enablers in the management of HPT among healthcare providers and policymakers in Ghana. Using the CCM as a guiding conceptual framework, we identified critical barriers at the government, institutional, and patient levels that impede the effective management of HPT.

Conversely, some of the unpacked enablers can help achieve effective HPT management. These are patients follow-up and education. Policy and structural support, professional knowledge and training, and finally teamwork and

collaboration. Policies that enforce these enabling factors will minimize systemic barriers to care and support the conditions needed for effective HPT control. Lastly, collaborative efforts and further research are needed to continuously inform policy and healthcare delivery for sustainable and effective management of HPT.

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Declarations

Ethics approval and consent to participate The research study adhered to the principles in the Helsinki declaration [23]. The study protocol was reviewed and approved by three institutional review boards: the James Cook University (JCU) Human Ethics Committee (H9031), the Komfo Anokye Teaching Hospital (KATH) Ethical Review Committee (KATHIRB/AP/029/23), and the Ghana Health Service (GHS) Ethics Review Committee (GHS-ERC: 005/09/22). Besides, the Ashanti Regional Health Directorate also granted approval for the study. Prior to the participants participation in the study, each was provided with a detail explanation of the research objectives, aim and confidentiality measures put in place to safeguard their information. Both written and verbal informed consent were sought from the participants who were assured that their identities would not be connected to any research output. Participants were further assured of their right to withdraw from the study at any time without consequence.

Consent for publication All authors consent and approved the final manuscript for publication.

Competing interests The authors declare no competing interests.

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