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Prevalence and Factors Associated with Hypertension Among Adults Attending Outpatient Department at Kericho County Hospitals: A Systematic Review

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Abstract:

- ***Introduction:***

Hypertension is one of the most common diseases in adults and continues to be a significant health problem. Sometimes, it can develop without any symptoms and some people may discover that they have high blood pressure when complications have occurred. Therefore, early screening and good management are crucial. Yet, not much information is available about the prevalence of hypertension among adult hospital visitors in Kericho County at the outpatient departments.

- ***Objectives:***

The aim of this study is to find out how common hypertension is and to identify factors that are linked to the condition among adults visiting the outpatient department at hospitals in Kericho County.

- ***Methods:***

This study will be carried out in hospitals of Kericho County with adults aged 18 years and above visiting the outpatient department. Systematic sampling will be used to select participants. A structured questionnaire, blood pressure readings, physical measurements and other pertinent medical information will be collected. Descriptive and inferential statistical analysis will be used to analyze the data. The level of statistical significance will be set at a p value < 0.05.

- ***Results:***

The study will demonstrate the percentage of adults who have hypertension and common factors associated with hypertension, including age, family history of hypertension, high body weight, poor diet, and lack of exercise, alcohol consumption, and smoking.

- ***Conclusion:***

The findings of this study will be used to gain insight into the prevalence of hypertension among adults in hospital in Kericho County. The results can support healthcare professionals to optimize their routine blood pressure monitoring, health education, detection of hypertension at an early stage, and promote lifestyle modification and better hypertension management.

Keywords: *Hypertension, Prevalence, Associated Factors.*

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I. INTRODUCTION

Hypertension is a chronic medical disorder that involves elevated blood pressure, and is a major contributor to cardiovascular diseases, stroke, heart failure, kidney disease, and other health issues(WHO, 2025). In many cases, people do not realize they have it as it doesn't cause any symptoms(Goorani et al., 2024). Regularly monitoring blood pressure at health centers is very important as explained in the above paragraph(Christian Delles et al. 2024). According to The World Health Organization, hypertension is a significant global problem and claims that approximately 1.4 billion adults aged 30 to 79 years were estimated to be living with hypertension in 2021, without being aware of this condition(Goorani et al., 2024)..

WHO also says that there are effective and affordable treatments available, and finding and managing high blood pressure can greatly reduce preventable heart problems.(Zhou et al., 2021).

Worldwide, the prevalence of hypertension has significantly increased over the past few years, particularly in low- and middle-income countries (LIMCs) (Gaye et al., 2026). The NCD Risk Factor Collaboration gathered data from over 1,200 studies including more than 104 million people and showed big differences in how common hypertension is, how it's treated and how well it's controlled (WHO , 2021). These results highlight the significance of early detection in the population with the help of primary health care, and long-term management of the cases (Zhou et al., 2021). In sub-Saharan Africa, the burden is particularly high due to the rapid increase in urbanization, ageing population, the shift in dietary habits, obesity, reduced physical activity, and higher consumption of tobacco and alcohol, which have led to an increased risk of non-communicable diseases. Recent studies(PubMed, 2025) suggest that about a quarter to a third of adults in sub-Saharan Africa have high blood pressure, although the numbers vary a lot between countries and areas because of different ways data is collected(Hagenimana et al., 2025). Kenya is also going through similar changes in disease patterns (Wanjau et al., 2022). The 2015 STEPS survey found that 24.5% of adults aged between 18 and 69 had hypertension. Only a small number of people who have it know about it, and even fewer are being treated or controlled well(Tapela et al, 2026). Age, being overweight and drinking too much alcohol are linked to hypertension (Nambiema et al., 2025). Another national study reported a 28.6% prevalence with rates increasing from 17.7% among 18 to 29-year-olds to 58.3% for those aged 60 to 69(WHO, 2020).

Data from health facilities is important because people visiting outpatient clinics are a good chance to find out about hypertension(Elemoah et al., 2025). A 2025 study in Kenya included 1,444 adults from eight clinics, including Kericho County Referral Hospital and Tenwek Hospital in Bomet County(Shah et al., 2025). About 29.4% had hypertension and almost half of them didn't know they had it. Factors linked to hypertension included age, gender, education level, marital status, body weight and where they lived (Wezena et al, 2026).

Evidence from Western Kenya is also important because it gives a regional and population context for areas in the western and Rift Valley regions (Public health 2022). At Kisumu County Hospital, 22% of adults had hypertension and older age, higher body weight and higher bad cholesterol were linked to it (Nakanjako et al., 2022). A population-based study using ambulatory blood-pressure monitoring showed that how hypertension is diagnosed can greatly affect the numbers found, which highlights the need for standard methods {GINA, 2025}. Even though these studies give useful information for the country, region and outpatient settings, there is not much published data specifically from Kericho County. Kericho County is a rural and semi-rural area and the people who come there might have unique characteristics in terms of age, job, diet and lifestyle(Muinga et al., 2020). So, bringing together existing evidence helps understand the expected risk, find common risk factors and guide future research at local health facilities. This review was done to gather information on how common hypertension is and what factors are linked to it among adults, to assist with screening, prevention, treatment and planning for future research in Kericho County (Costa et al., 2025).

➢ *Study Objectives*

➢ *Broad Objective*

The goal is to find out how common hypertension is among adults who visit outpatient services, and to look at the factors that are linked to it, with a focus on what applies to Kericho County.

➢ *Specific Objectives*

- To find out how often hypertension is reported among adults in Kenya and in similar outpatient and community areas in sub-Saharan Africa.
- To find out which socio-demographic factors are linked to hypertension among adults.
- To find out which behaviors and lifestyle choices are linked to hypertension among adults.

➢ *Research Questions*

- What is the rate of hypertension among adults in Kenya and in similar outpatient and community settings?
- Which socio-demographic factors are linked to hypertension among adults? Which behavioral and lifestyle factors are linked to hypertension among adults?

II. MATERIALS AND METHODS

➢ *Introduction*

This systematic review followed the PRISMA 2020 reporting framework. PRISMA 2020 offers updated guidance on how to clearly report systematic reviews, covering the search process, study selection, data collection, and how to present the results (Page et al., 2021).

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➢ *Identifying the Research*

- *Study Design*

A systematic literature review, following the PRISMA 2020 guidelines (Page et al., 2021).

- *Setting*

The main context was Kericho County, Kenya. Since there was not much published evidence specifically from Kericho County, relevant studies from Kericho County, Western Kenya, other Kenyan outpatient services, national surveys, and sub-Saharan Africa were included for a better understanding.

- *Population*

Adults aged 18 years or older.

➢ *Research Strategy and Selection Criteria*

PubMed/MEDLINE, Google Scholar, African Journals Online, WHO publications and other relevant institutional and government publications were used to conduct the search. Use of AND and OR with search terms. The references of relevant studies and systematic reviews were also checked to find more evidence (Page et al., 2021).

An attempt was made to search for articles published since 2007, although important reviews and methodological sources published earlier were included when they were relevant for background information. Recent evidence (up to 2026) including recent studies from Kenyan outpatient and rural settings was also included in the review.

Table 1 Boolean Search Operations

Concept	Keywords	Boolean words
Hypertension	hypertension, high blood pressure, raised blood pressure	hypertension OR high blood pressure OR raised blood pressure
Prevalence	prevalence, burden, epidemiology	prevalence OR burden OR epidemiology
Adults	adult, adults, adult population	adult OR adults OR adult population
Outpatient	outpatient, OPD, ambulatory care, clinic	outpatient OR OPD OR clinic OR ambulatory care
Risk factors	risk factors, associated factors, determinants	risk factors OR associated factors OR determinants
Lifestyle	alcohol, smoking, tobacco, physical activity, diet	alcohol OR smoking OR tobacco OR physical activity OR diet
Obesity	overweight, obesity, BMI, abdominal obesity	overweight OR obesity OR BMI OR abdominal obesity
Metabolic	diabetes, dyslipidemia, cholesterol	diabetes OR dyslipidemia OR cholesterol
Location	Kenya, Kericho,Western Kenya, East Africa	Kenya OR Kericho OR Western Kenya OR East Africa

- *Inclusion Criteria*

Studies involving adults aged 18 years or older. Studies conducted in Kenya or in sub-Saharan/East African settings that provide relevant context. Studies that report on the prevalence of hypertension and/or factors linked to it. Observational studies, systematic reviews/meta-analyses, national surveys, and official WHO/government reports. Studies that use a clear definition of high blood pressure or mention the use of antihypertensive medication to identify hypertension. Full-text articles or authoritative reports with enough methodological details.

- *Exclusion Criteria*

Studies conducted only among children or pregnant women, where results cannot be applied to the target group of adults in outpatient services. Studies that do not measure hypertension as an outcome. Editorials, opinion pieces, news reports, and other sources that lack relevant primary or synthesized data. Duplicate studies reporting the same data, where a more complete version is available. Studies whose population or outcome cannot reasonably help answer the review question.

➢ *Data Extraction and Procedure*

- *Study Selection and Data Source*

Peer-reviewed journal articles, World Health Organization (WHO) publications, national survey reports and relevant research in Kenya were used for data collection. Studies were first screened for relevance based on the titles and abstracts, and subsequently further evaluated in detail according to full text of potentially relevant studies. Particular emphasis was given to national surveys in Kenya, studies of the out-patient, and to samples of Western Kenya and the neighboring East African States.

- *Data Extraction Process*

Information on author, study year, study setting, design, sample size, population characteristics, and definition of hypertension, prevalence estimates and associated factors were systematically collected. Data from each study was analyzed and compared to other studies included in the research before narratively synthesizing the findings of all studies**.**

- *Data Items/Variables Extracted*

The following variables were extracted: age, sex, marital status, education level, occupation, residence, socioeconomic status, body mass index, abdominal obesity, alcohol use, tobacco smoking, level of physical activity, dietary habits, presence of diabetes and dyslipidemia, family history of hypertension, awareness of hypertension, treatment status, and blood pressure control. If possible, the particular approach taken in each study to assess these variables was also described.

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- *Data Synthesis/Analysis*

The studies in the analysis were different in terms of design, population, diagnostic methods and definition of outcome, so the main way that the results were synthesized was through narrative. The prevalence of hypertension was compared in various settings (national, outpatient clinics, rural vs. urban and Western Kenya). The factors associated with the common problems were categorized into 3 main groups: socio-demographic factors, behavioral and lifestyle, and physiological and metabolic factors. Prior pooled estimates from high quality SRs were used as further context for the individual study estimates and were not re-pooled with the individual study estimates.

➢ *PRISMA Flow Summary and Image*

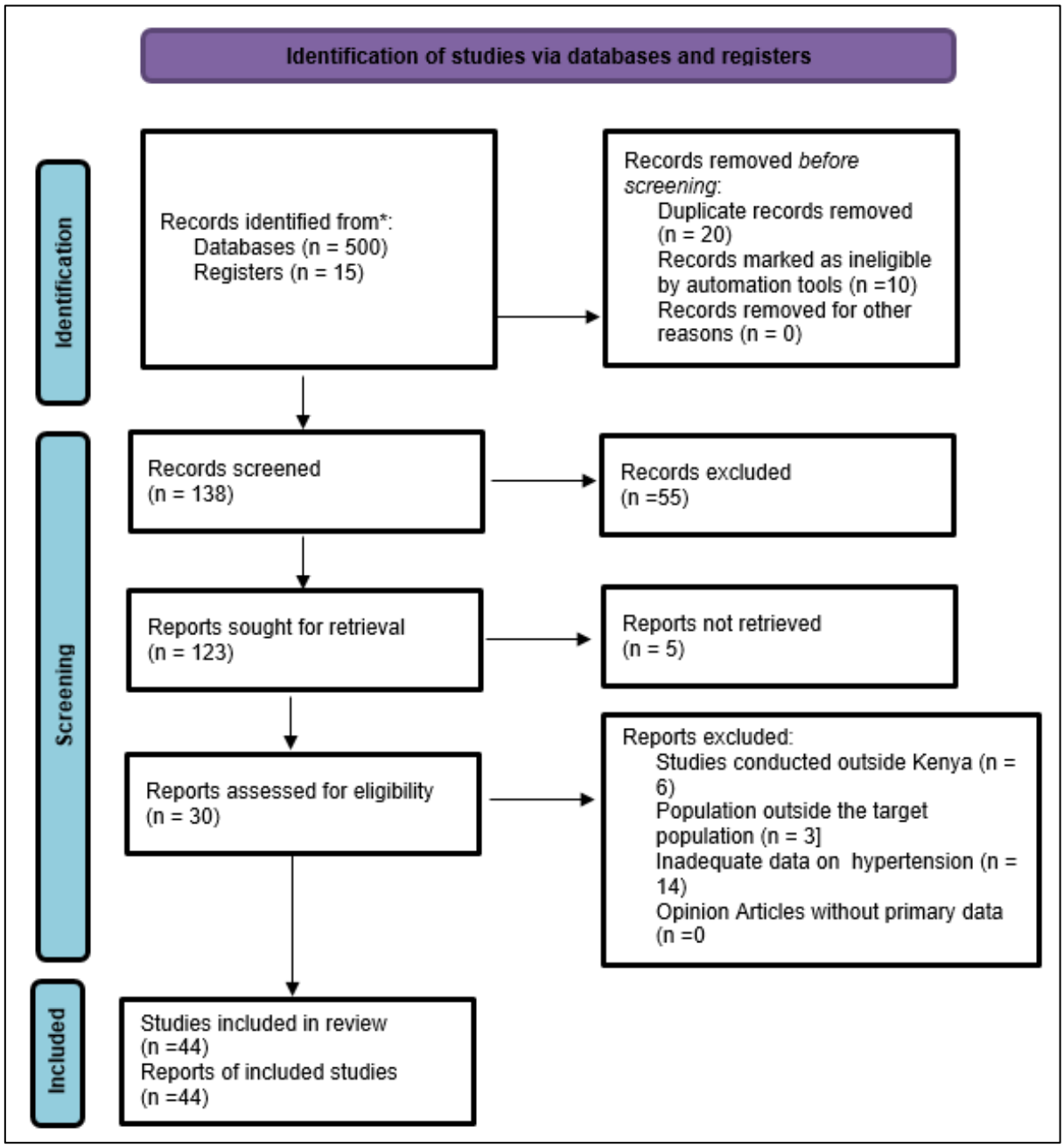


Fig 1 PRISMA 2020 Flow Diagram

III. RESULTS

The reviewed evidence shows that hypertension is common among adults in Kenya. However, the rate of hypertension varies depending on age, where people live, how it is measured, and whether the study includes people from the community or healthcare facilities.

➢ *Overall Prevalence of Hypertension*

The Kenya STEPS survey in 2015 found that 24.5% of adults aged 18 to 69 years had hypertension(Sarfo-Kantanka et al., 2020) . Only 15.6% of them were aware they had it, 26.9% of those aware were being treated, and 51.7% of those on treatment had their blood pressure under control(Salu et al., 2026). Older age, higher body mass index (BMI), and

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harmful alcohol use were linked to higher chances of hypertension (Nambiema et al., 2025). Another analysis of the same national survey found a prevalence of 28.6%, with the rate increasing with age—from 17.7% for adults aged 18 to 29 years to 58.3% for those aged 60 to 69 years (Supa Pengpid et al. 2020). The study also revealed that there was significant lack of knowledge, discusses about hypertension, seeking treatment, and managing blood pressure. Importance of healthcare facilities evidence in outpatient studies (Brhanie, 2026). A 2025 survey of the rate of hypertension among adults in various Kenyan hospitals was 29.4% with 1,444 people being identified. The facilities involved were Kericho County hospitals and Tenwek Hospital, and so the results are particularly relevant for these hospitals. Appreciating the situation in the two areas of Kericho and Bomet (Shah et al., 2025).

In Western Kenya, a study at Kisumu County Hospital found that 22% of adults had hypertension(Amollo et al., 2026). It was more common among people without HIV than those who had it, and older age, BMI over 25 kg/m², and high LDL cholesterol were linked to increased risk of hypertension(Farrant et al., 2022).

In ambulatory blood-pressure monitoring study, the crude prevalence based on screening was at age-standardization, the prevalence of true hypertension was 23.1%, but with repeated measurements, was 17.1 % (Mary Namuguzi et al. 2024). The figure indicates that the method of measuring hypertension can impact the results(Lee & Chang, 2025) . According to a large study known as Healthy Heart Africa, 20.8% of the participants were found to have high blood pressure, 54.5% were prehypertensive. This reinforces the importance of screening early as many of these are missed. Adults had blood pressure levels above normal even before reaching the standard hypertension thresholds(Ngo et al., 2026) .

- *Socio-Demographic Factors*

The most consistent factor was age. National surveys indicated that it was a risky factor for hypertension that was worsened by:

Recent meta-analysis in sub-Saharan Africa also showed that adults over 50 years of age were almost five times more likely to be overweight or obese than those aged between 30 and 49 years.

Times the risk of younger adults.

Sex difference was also observed. There were lower rates of awareness of hypertension among men, as indicated in the national survey and recent research in East Africa and sub-Saharan Africa indicate that being male, particularly at the age of 12, and having a hormonal imbalance may increases the risk of hypertension. Other factors such as education, marital status, wealth, and where people live may also play a role, but the effects and how strong they are can differ depending on where the study takes place.

The 2025 outpatient study found links with education, marital status, and where people lived, while a study in Nairobi slums found connections with wealth and marital status.

- *Behavioral and Lifestyle Factors*

Alcohol use was consistently linked to hypertension. Harmful drinking was independently associated with higher chances of hypertension in the national survey, and meta-analyses from East Africa and sub-Saharan Africa also found alcohol to be a major risk factor. Smoking was linked to hypertension in the Nairobi urban-slum study and in recent regional meta-analyses. Lack of physical activity was also identified as a risk factor in sub-Saharan African research. Diet also played a role. Low intake of fruits and vegetables was associated with hypertension in a recent meta-analysis from sub-Saharan Africa, highlighting the importance of dietary advice in outpatient services.

- *Physiological and Metabolic Factors*

Being overweight or obese was strongly linked to hypertension. The national survey found that higher BMI was a major contributor, and studies in East Africa also found increased risk for overweight and obese adults. Belly fat was also strongly associated with hypertension. Diabetes was another key factor. A 2026 meta-analysis in sub-Saharan Africa found that adults with diabetes had much higher chances of developing hypertension, and an East African review also showed a strong link between diabetes and hypertension. High cholesterol and abnormal lipid levels were associated with hypertension in the Western countries.

A study in Kenya indicates that hypertension screening needs to be combined with other cardiovascular risk factors. Assessment as appropriate if resources allow. Family history of hypertension was also found to be a major contributor in the recent studies conducted in sub Saharan Africa. This emphasizes the significance of focused screening for individuals' older adults with a known family history, particularly as adults' age and if other members of the family have a known history of scoliosis. Risk factors begin to develop which are preventable.

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Table 2 Summary of Selected Evidence Relevant to Kenya and Sub-Saharan Africa

Study/evidence	Setting	Population/sample	Hypertension prevalence	Important associated factors
Mohamed et al., 2018	Kenya national STEPS	Adults 18–69; n=4,485	24.5% age-standardized	Age, BMI, harmful alcohol use
Olack et al., 2015	Nairobi urban slum	Adults 35–64; n=1,528	29.4% age-standardized	Age, obesity, smoking, wealth, marital status, physical activity
Etyang et al., 2016	Kilifi, Kenya	Population-based adults	23.1% screening; 17.1% age-standardized ABPM	Age; diagnostic method affected prevalence
Mecha et al., 2020	Kenya HHA programme	5,985,185 records	20.8% hypertension	Male sex and rural residence associated with prehypertension
Western Kenya study, 2022	Kisumu County Hospital	598 adults	22%	Age >40, BMI >25, LDL ≥130 mg/dL
Shah et al., 2025	8 Kenyan outpatient facilities	1,444 adults	29.4%	Age, sex, education, marital status, BMI, residence
Nwankwo et al., 2025	East Africa meta-analysis	56,503 participants	21.0% pooled	Overweight, obesity, abdominal obesity, alcohol, smoking, diabetes
Kakoma et al., 2026	Sub-Saharan Africa meta-analysis	52 studies	27.09% pooled	Age >50, male sex, diabetes, obesity, alcohol, smoking, inactivity, diet, family history

IV. DISCUSSION

This systematic review demonstrates that hypertension is a significant health problem in adult Kenyans and in general in the whole of Africa. While different studies give different numbers, most suggest that the prevalence is high. It is important to carry out routine outpatient screening, since it is high enough for this to be an important outpatient screening tool (Perkins et al., 2026). . For example, the outpatient estimate of 29.4% is higher than the age adjusted national estimate of 24.5%. However, if you go to an outpatient clinic, you shouldn't assume that you will become hypertensive (PubMed, 2024). Individuals visiting healthcare facilities may be older or have other illnesses so comparing the marginalization of these groups is not easy in relation to the general population (Zoi kollia et al. 2025). That said, the difference implies that the outpatient departments are important sites for the detection of hypertension cases (Connor et al., 2023).

The strongest and most consistent association to hypertension was age. This is logical as the people age, blood vessels become stiffer and they are at a higher risk such as poor cholesterol and blood sugar levels, diet and lifestyle habits (Boutouyrie et al., 2021). The robust age pattern of the national data in Kenya, along with results from regional meta-analyses, support the idea that blood pressure should be regularly found that middle aged and older adults are the ones that checked in (Acharya et al., 2025). Blood pressure can be caused by things such as diabetes and hypertension. Hypertension is also highly related with cholesterol and fats. Since these conditions often occur together, they increase the risk of heart and kidney diseases (Yang et al., 2026).. A study in western Kenya also correlated high LDL cholesterol to hypertension, which supports the need for a more integrated approach to Controlling cardiovascular risk (Volkow & Blanco, 2023) .

Low knowledge about hypertension is a concern in Kenya. According to a 2015 nationwide survey: Blood pressure was known by only 15.6% of those with hypertension, and even fewer were treated or had their blood pressure levels measured, condition controlled. A new outpatient study reveals almost half of people who have been diagnosed with 49% of those with hypertension did not know they had it. These findings are evidence that mere access to health care Does not necessarily imply long-term detection and control (Yang et al., 2026).The variance in the diagnosis of hypertension is important too. A study in Kenya using ambulatory blood from the pressure monitoring, lower prevalence was found when compared to the screenings carried out at clinics. This shows the importance of the use of standardized blood pressure measurements, repeat measurements if necessary, using the correct cuff size, and making accurate diagnosis (*Zekarias Markos et al. 2026*). One major challenge in the implementation of the finding is that there was no study available that reviewed the findings within the study area, Kericho County, specific prevalence data for the area. The most data was derived from national surveys and other Kenyan Regional studies, or hospitals. Due to variation in geography, population and testing methods, it was not possible to determine the actual prevalence in Kericho. A local facility based study is therefore needed (Shah et al., 2025).

V. CONCLUSION

This is the case in Kenya and sub Saharan Africa where hypertension is prevalent among adults and is a significant public health problem. A health concern that occurs while a patient is receiving care outside of the hospital. Available evidence from Kenya suggests that about a quarter to a third, the prevalence of hypertension in adults was 29.4% in a multi-center outpatient study, and 25.7% in a single center study. The risk rises as people get older and is always associated with excess weight, alcohol consumption,

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smoking, sedentary lifestyle. Risk factors include poor diet, diabetes, high cholesterol and family history. There isn't enough published evidence to accurately establish the level of hypertension in Kericho County. The uniformity of the need for routine screening is also well supported by national, Western Kenyan, outpatient and regional data, a specific prevalence study and assessment of factors relating to it in the area.

RECOMMENDATION

- Strengthen routine blood-pressure screening. Every adult attending the outpatient department should have blood pressure measured using an appropriate, validated device and correctly sized cuff.
- Confirm elevated readings appropriately. Patients with elevated measurements should have repeat measurements and clinical assessment in line with current hypertension guidelines before a definitive diagnosis is made.
- Integrate cardiovascular risk assessment. Screening should consider BMI, diabetes, tobacco use, alcohol use, physical activity, diet and family history.
- Strengthen health education. Adults should receive practical counselling on salt reduction, healthy diet, physical activity, weight management, avoidance of tobacco and harmful alcohol use.
- Improve continuity of care. Confirmed hypertensive patients should receive appropriate treatment, follow-up, adherence support and monitoring of blood-pressure control.
- Target high-risk groups. Older adults, people with obesity or diabetes, smokers, heavy alcohol users and adults with a family history of hypertension should receive particular attention.
- Improve facility data. Kericho County should maintain reliable outpatient hypertension screening and treatment records to support monitoring of prevalence, treatment and control.
- Conduct a primary study at Kericho. A facility-based cross-sectional study should be undertaken to establish the local prevalence and independently determine the factors associated with hypertension among adult outpatients

- *Source of Funding*

There has been no external research funding for this systematic review.

- *Competing Interest*

The authors state that they have no competing interests.

- *Authors Contribution*

All the authors were involved in creating the review idea, gathering and analyzing the literature, writing the manuscript, and reviewing it critically. They all agree to be responsible for the accuracy and honesty of the work.

- *Ethical Approval*

Since this work is a systematic review of published and publicly available literature and does not involve directly recruiting or collecting data from identifiable human participants, individual ethical approval was not needed for the literature review. However, any future primary study in Kericho County must get approval from the appropriate institutional and national authorities before starting data collection.

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REFERENCES

[1]. Acharya, S., Karanjkar, V., Goyal, M., Deshpande, P. V., Anonymous, Setia, M. S., Rathod, D., Kannan, P., Krishna, A., Pathni, A. K., Palkar, A., Harshana, A., & Anonymous. (2025). Prevalence of Hypertension and Its Associated Factors Among Adult People Living with HIV/AIDS at Anti-Retroviral Treatment (ART) Centers in Mumbai, India. *HIV/AIDS (Auckland, N.Z.)*, *17*, 105–119. https://doi.org/10.2147/HIV.S499508

[2]. Addo, J., Smeeth, L., & Leon, D. A. (2007). Hypertension in sub-saharan Africa: A systematic review. *Hypertension*, *50*(6), 1012–1018. https://doi.org/10.1161/HYPERTENSIONAHA.107.093336

[3]. Alturbag, M. (n.d.). Factors and Reasons Associated With Appointment Non-attendance in Hospitals: A Narrative Review. *Cureus*, *16*(4), e58594. https://doi.org/10.7759/cureus.58594

[4]. Amollo, N. W., Ogol, J., Museve, E., Owenga, J. A., Aduda, D. O., & Onguru, D. (2026). Financial determinants of effective hypertension and diabetes care in rural primary health facilities in Kisumu, Kenya: A mixed-methods study. *BMC Public Health*, *26*, 1275. https://doi.org/10.1186/s12889-026-26963-8

[5]. Benjamin, E. J., Blaha, M. J., Chiuve, S. E., Cushman, M., Das, S. R., Deo, R., de Ferranti, S. D., Floyd, J., Fornage, M., Gillespie, C., Isasi, C. R., Jiménez, M. C., Jordan, L. C., Judd, S. E., Lackland, D., Lichtman, J. H., Lisabeth, L., Liu, S., Longenecker, C. T., … Muntner, P. (2017). Heart Disease and Stroke Statistics—2017 Update. *Circulation*, *135*(10), e146–e603. https://doi.org/10.1161/CIR.0000000000000485

[6]. Boutouyrie, P., Chowienczyk, P., Humphrey, J. D., & Mitchell, G. F. (2021). Arterial Stiffness and Cardiovascular Risk in Hypertension. *Circulation Research*, *128*(7), 864–886. https://doi.org/10.1161/CIRCRESAHA.121.318061

[7]. Brhanie, T. W. (2026). Gaps in awareness, treatment, and control of hypertension in Ethiopia: A care cascade analysis using nationally representative data. *Preventive Medicine Reports*, *67*, 103524. https://doi.org/10.1016/j.pmedr.2026.103524

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct757

[8]. Connor, L., Dean, J., McNett, M., Tydings, D. M., Shrout, A., Gorsuch, P. F., Hole, A., Moore, L., Brown, R., Melnyk, B. M., & Gallagher-Ford, L. (2023). Evidence-based practice improves patient outcomes and healthcare system return on investment: Findings from a scoping review. *Worldviews on Evidence-Based Nursing*, *20*(1), 6–15. https://doi.org/10.1111/wvn.12621

[9]. Costa, V., Custodio, M. G., Gefen, E., & Fregni, F. (2025). The relevance of the real-world evidence in research, clinical, and regulatory decision making. *Frontiers in Public Health*, *13*, 1512429. https://doi.org/10.3389/fpubh.2025.1512429

[10]. Elemoah, D., Abeasi, D. A., Agyei, F. B., Sasemame, E. S., & Akumiah, P. O. (2025). The waiting game: Determinants and effects of OPD service delays in a Tertiary Health Facility. *BMC Health Services Research*, *25*, 1545. https://doi.org/10.1186/s12913-025-13594-9

[11]. Farrant, M. T., Masyuko, S. J., Kinuthia, J., Osoti, A. O., Mogaka, J. N., Temu, T. M., Zifodya, J. S., Nakanjako, D., Ameda, F., Farquhar, C., & Page, S. T. (2022). Association of HIV, cardiovascular risk factors, and carotid intimal media thickness: A cross-sectional study in Western Kenya. *Medicine*, *101*(47), e31366. https://doi.org/10.1097/MD.0000000000031366

[12]. Gaye, N. D., Jalloh, M. B., Gary-Webb, T. L., Madan, I., Edjimbi, J., Ka, M. M., Mekonnen, D., Fall, P. M. D., Niang, T., Diop, H. B., AbdelNoor, A. T., Thiam, M. M., Singh, G., Anne, M., Ngaide, A. A., Maffia, P., Ntusi, N. A. B., Sattler, E. L. P., Fall, I. S., … Gaye, B. (2026). Trends of age-standardised hypertension prevalence, treatment, and control among adults aged 30–79 years in Africa from 1990 to 2019. *The Lancet Regional Health - Africa*, 100113. https://doi.org/10.1016/j.lanafr.2026.100113

[13]. Goorani, S., Zangene, S., & Imig, J. D. (2024). Hypertension: A Continuing Public Healthcare Issue. *International Journal of Molecular Sciences*, *26*(1), 123. https://doi.org/10.3390/ijms26010123

[14]. Hagenimana, J. D., Pascaline, K. D., Rubuga, F. K., Mwiza, K., Musange F., S., Umutoni, N., Mudereri, C., Uwitonze, J., Nyabyenda, E. C., Mazimpaka, P. I., Wane, O. N., Remera, E., Aline, U., Nahimana, M. R., Condo, J., & Absolomon, G. (2025). Prevalence and determinants of hypertension in rwanda: A secondary data analysis using the WHO STEPS survey 2022. *Scientific Reports*, *15*(1), 31036. https://doi.org/10.1038/s41598-025-14138-1

[15]. Hay, S., Renshaw, M., Ochola, S. A., Noor, A. M., & Snow, R. W. (2003). Performance of forecasting, warning and detection of malaria epidemics in the highlands of western Kenya. *Trends in Parasitology*, *19*(9), 394–399. https://doi.org/10.1016/s1471-4922(03)00190-9

[16]. *Hypertension*. (n.d.). Retrieved October 8, 2026, from https://www.who.int/news-room/fact-sheets/detail/hypertension

[17]. *Hypertension: Background, Etiology, Pathophysiology*. (n.d.). Retrieved October 8, 2026, from https://emedicine.medscape.com/article/241381-overview

[18]. ihab. (n.d.-a). *Prevalence, awareness, treatment and control of hypertension among adults in Kenya: Cross-sectional national population-based survey*. Retrieved October 11, 2026, from https://www.emro.who.int/emhj-volume-26-2020/volume-26-issue-8/prevalence-awareness-treatment-and-control-of-hypertension-among-adults-in-kenya-cross-sectional-national-population-based-survey.html

[19]. ihab. (n.d.-b). *Prevalence, awareness, treatment and control of hypertension among adults in Kenya: Cross-sectional national population-based survey*. Retrieved October 8, 2026, from https://www.emro.who.int/emhj-volume-26-2020/volume-26-issue-8/prevalence-awareness-treatment-and-control-of-hypertension-among-adults-in-kenya-cross-sectional-national-population-based-survey.html

[20]. Lee, I., & Chang, M. J. (2025). Comparing the accuracy of continuous blood pressure monitoring using wearable cuffless devices with conventional 24-hour ambulatory blood pressure monitoring: A systematic review and meta-analysis. *American Journal of Preventive Cardiology*, *24*, 101342. https://doi.org/10.1016/j.ajpc.2025.101342

[21]. Mohamed, S. F., Mutua, M. K., Wamai, R., Wekesah, F., Haregu, T., Juma, P., Nyanjau, L., Kyobutungi, C., & Ogola, E. (2018a). Prevalence, awareness, treatment and control of hypertension and their determinants: Results from a national survey in Kenya. *BMC Public Health*, *18*(Suppl 3), 1219. https://doi.org/10.1186/s12889-018-6052-y

[22]. Mohamed, S. F., Mutua, M. K., Wamai, R., Wekesah, F., Haregu, T., Juma, P., Nyanjau, L., Kyobutungi, C., & Ogola, E. (2018b). Prevalence, awareness, treatment and control of hypertension and their determinants: Results from a national survey in Kenya. *BMC Public Health*, *18*(Suppl 3), 1219. https://doi.org/10.1186/s12889-018-6052-y

[23]. Muinga, N., Magare, S., Monda, J., English, M., Fraser, H., Powell, J., & Paton, C. (2020). Digital health Systems in Kenyan Public Hospitals: A mixed-methods survey. *BMC Medical Informatics and Decision Making*, *20*, 2. https://doi.org/10.1186/s12911-019-1005-7

[24]. Nambiema, A., Agboyibor, K. M., Dangou, J.-M., Antignac, M., Diallo, C. B., Okeibunor, J. C., Jouven, X., Farzadfar, F., & Empana, J.-P. (2025a). Prevalence, Awareness, and Treatment of Hypertension in 37 African Countries. *Journal of the American College of Cardiology*, *86*(23), 2263–2288. https://doi.org/10.1016/j.jacc.2025.09.1600

[25]. Nambiema, A., Agboyibor, K. M., Dangou, J.-M., Antignac, M., Diallo, C. B., Okeibunor, J. C., Jouven, X., Farzadfar, F., & Empana, J.-P. (2025b). Prevalence, Awareness, and Treatment of Hypertension in 37 African Countries. *Journal of the*

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct757

American College of Cardiology, *86*(23), 2263–2288. https://doi.org/10.1016/j.jacc.2025.09.1600

[26]. Ngo, S., Chao, J. C., Sahadeo, J., Konstantopoulos, A. D., Hughes, E. G., Larios, K. N., Wu, J. X., Yeh, M. W., & Livhits, M. J. (2026). Electronic Health Record-Based Screening for Primary Aldosteronism in a Large Academic System. *Endocrine Practice*. https://doi.org/10.1016/j.eprac.2026.05.022

[27]. *Non-communicable diseases in the WHO African region: Analysis of risk factors, mortality, and responses based on WHO data—PMC*. (n.d.). Retrieved October 8, 2026, from https://pmc.ncbi.nlm.nih.gov/articles/PMC11986008/

[28]. Onyango, E. M., & Onyango, B. M. (2018). The Rise of Noncommunicable Diseases in Kenya: An Examination of the Time Trends and Contribution of the Changes in Diet and Physical Inactivity. *Journal of Epidemiology and Global Health*, *8*(1–2), 1–7. https://doi.org/10.2991/j.jegh.2017.11.004

[29]. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, *372*, n71. https://doi.org/10.1136/bmj.n71

[30]. (PDF) Prevalence and Determinants of Hypertension Awareness, Treatment, and Control in Botswana: A Nationally Representative Population-Based Survey. (2026). *ResearchGate*. https://doi.org/10.1155/2020/8082341

[31]. (PDF) Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: A pooled analysis of 1201 population-representative studies with 104 million participants. (2026). *ResearchGate*. https://doi.org/10.1016/S0140-6736(21)01330-1

[32]. Perkins, A. D., Jobe, M., Lucinde, R., Awori, J. O., Sanneh, S., Kalu, C., Mwagwabi, C., Saru, E., Paixão, G. M. M., Mwazo, K., Leon, D. A., Clayton, T., Herrett, E., Murphy, A., Ogola, E. N., Ehret, G., Schutte, A. E., Prentice, A. M., Shah, A. S. V., … Foster-Nyarko, M. (2026). Prevalence of target organ damage in rural Kenya and The Gambia: A cross-sectional study. *The Lancet Regional Health - Africa*, *7*, 100087. https://doi.org/10.1016/j.lanafr.2026.100087

[33]. Philosophy, D. of, & Studies, L. (HoD) at U. for D. (n.d.). *Cletus WEZENA | Lecturer (HoD) | Doctor of Philosophy | University for Development Studies, Tamale | Department of Microbiology | Research profile*. ResearchGate. Retrieved October 8, 2026, from https://www.researchgate.net/profile/Cletus-Wezena

[34]. *Prevalence and predictors of hypertension among patients undergoing preanesthesia evaluation at Bahir Dar University Tibebe Ghion Specialized Hospital in 2025: A cross-sectional study | Perioperative Medicine | Springer Nature Link*. (n.d.). Retrieved October 8, 2026, from https://link.springer.com/article/10.1186/s13741-026-00681-6

[35]. Salu, S., Mortty, A., Okyere, J., & Otoo, D. M. (2026). Self–reported health status and blood pressure medication use among persons living with hypertension in Kenya. *Blood Pressure*, *35*(1), 2712023. https://doi.org/10.1080/08037051.2026.2712023

[36]. Sarfo-Kantanka, O., Ofori-Adjei, D., Gebregziabher, M., Mobula, L. M., Burnham, G., Plange-Rhule, J., Arthur, L., Sablah, J., Gavor, E., & Sarfo, F. S. (2020). Longitudinal control of blood pressure among a cohort of Ghanaians with hypertension: A multicenter, hospital-based study. *The Journal of Clinical Hypertension*. https://doi.org/10.1111/JCH.13873

[37]. Shah, J., Manji, S., Smith, C., Nambafu, J., Ochola, A., Barasa, L., Amir, F., Abdalla, H., Jowi, S., Mithi, C., Patel, R., & Ali, S. K. (2025a). Prevalence and risk factors of hypertension among clients seeking care at Selected Healthcare Facilities in Kenya. *PLOS One*, *20*(10), e0334255. https://doi.org/10.1371/journal.pone.0334255

[38]. Shah, J., Manji, S., Smith, C., Nambafu, J., Ochola, A., Barasa, L., Amir, F., Abdalla, H., Jowi, S., Mithi, C., Patel, R., & Ali, S. K. (2025b). Prevalence and risk factors of hypertension among clients seeking care at Selected Healthcare Facilities in Kenya. *PLOS One*, *20*(10), e0334255. https://doi.org/10.1371/journal.pone.0334255

[39]. Shah, J., Manji, S., Smith, C., Nambafu, J., Ochola, A., Barasa, L., Amir, F., Abdalla, H., Jowi, S., Mithi, C., Patel, R., & Ali, S. K. (2025c). Prevalence and risk factors of hypertension among clients seeking care at Selected Healthcare Facilities in Kenya. *PLOS One*, *20*(10), e0334255. https://doi.org/10.1371/journal.pone.0334255

[40]. TYMEJCZYK, O., McNAIRY, M. L., PETION, J. S., RIVERA, V. R., DORÉLIEN, A., PECK, M., SEO, G., WALSH, K., FITZGERALD, D. W., PECK, R., JOSHI, A., PAPE, J. W., & NASH, D. (2019). Hypertension prevalence and risk factors among residents of four slum communities: Population-representative findings from Port-au-Prince, Haiti. *Journal of Hypertension*, *37*(4), 685–695. https://doi.org/10.1097/HJH.0000000000001966

[41]. Volkow, N. D., & Blanco, C. (2023). Substance use disorders: A comprehensive update of classification, epidemiology, neurobiology, clinical aspects, treatment and prevention. *World Psychiatry*, *22*(2), 203–229. https://doi.org/10.1002/wps.21073

[42]. Wanjau, M. N., Aminde, L. N., & Veerman, J. L. (2022). The avoidable disease burden associated with overweight and obesity in Kenya: A modelling study. *eClinicalMedicine*, *50*. https://doi.org/10.1016/j.eclinm.2022.101522

[43]. Yang, D., Huang, J., Duan, L., Chen, Z., & Feng, Y. (2026). The association between cardiometabolic index and hypertension-diabetes comorbidity among adults aged 45 and older: Evidence from two national

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26oct757

databases. *BMC Endocrine Disorders*, *26*(1), 60. https://doi.org/10.1186/s12902-026-02177-2

[44]. Zhou, B., Perel, P., Mensah, G. A., & Ezzati, M. (2021). Global epidemiology, health burden and effective interventions for elevated blood pressure and hypertension. *Nature Reviews. Cardiology*, *18*(11), 785–802. https://doi.org/10.1038/s41569-021-00559-8