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Awareness, Treatment and Control of Hypertension in Nigeria: A Systematic Review

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Abstract:

Background: Inadequate hypertension diagnosis and management in Nigeria is a key contributor to cardiovascular morbidity and death. To direct appropriate preventive actions in Nigeria, a better knowledge of the existing burden of hypertension is required, including awareness, treatment, and management. To evaluate the trends of hypertension throughout the nation's various states, a systematic review was done.

Methods:

A thorough literature search was conducted using PRISMA guidelines to find empirical research on hypertension and obesity in adult Nigerians. In order to find original publications about the recognition, management, and control of hypertension in Nigeria published between 2002 and 2022, PubMed, Scopus, and CINAHL were used as the major databases. Africa, Nigeria, awareness, therapy, control, and hypertension were the main search phrases. To provide for more research, the bibliographies mentioned in the indicated papers were investigated. The articles' full texts were retrieved from a variety of online resources. This data was gathered using a data extraction form.

Results:

The requirements for inclusion were satisfied by 48 studies from each of the nation's six geopolitical regions. Regional differences in awareness, treatment, and control were significant. The awareness of rural people was lower than that of urban people. The South-South region has the greatest prevalence of hypertension. The lowest rates of hypertension management were seen in the South-West. Even among respondents who were aware of their condition and those who were receiving treatment, there was typically inadequate control of hypertension across the nation. There were no estimates specific for either gender.

Conclusion:

Hypertension is only marginally understood, treated, and controlled. For hypertension patients in Nigeria to experience improved outcomes, tailored studies are needed to identify the precise causes of these low levels.

Keywords: Hypertension, Awareness, Treatment, Control, Risk Factors, Nigeria, Africa

Introduction: Cardiovascular diseases (CVDs) have emerged as the leading global cause of death, primarily driven by modifiable risk factors such as tobacco use, alcohol consumption, hypertension (HTN), dyslipidaemia, obesity, poor diet, and physical inactivity (Glovaci et al., 2019; WHO, 2021). Once considered a problem of high-income countries, CVDs now represent a major public health concern

in sub-Saharan Africa (SSA), where the dual burden of infectious and noncommunicable diseases continues to strain fragile health systems (Minja et al., 2022; Wekwete et al., 2022).

Nigeria, the most populous country in Africa, exemplifies this epidemiological transition. Rising urbanisation and lifestyle shifts have contributed to an increasing prevalence of HTN and overweight/obesity, which are now significant contributors to morbidity and mortality (Issaka et al., 2018; Choukem et al., 2020). HTN-related conditions such as heart failure, stroke, and renal disease have become common, often diagnosed late or not at all. Recent studies highlight the ongoing challenges in managing hypertension in Nigeria. For instance, a 2021 meta-analysis revealed that among Nigerians with hypertension, only 29% were aware of their diagnosis, 12% were on treatment, and a mere 3% achieved control (Ogungbe et al., 2024). In a recent study, over 45% of sudden cardiac deaths were attributable to hypertensive cardiovascular disease (CVD), yet only 10% had a prior diagnosis (Danladi et al., 2025). Similarly, a tertiary hospital in Nigeria reported a 43% case-fatality rate among hypertensive patients (Danladi et al., 2025).

The burden is compounded by the co-existence of undernutrition and rising obesity rates, presenting a unique challenge for public health systems in SSA (Sahoo et al., 2015; Ajayi et al., 2016). Moreover, ethnic minority populations who migrate to high-income countries often exhibit increased CVD risk, suggesting that environmental and socioeconomic factors play a substantial role (Vyas et al., 2024; Hossain et al., 2025).

Globally, hypertension (HTN) is responsible for over 10 million premature deaths and more than 218 million

disability-adjusted life years (DALYs) annually (WHO, 2023). Projections estimate that by 2025, 1.5 billion people—approximately one-third of the global population—will be hypertensive due to rising life expectancy and obesity (Boateng & Ampofo, 2023). In high-income countries, advances in HTN management have led to a 40% reduction in stroke risk and at least a 25% reduction in myocardial infarction (Dzau & Balatbat, 2024), but such progress has not been mirrored in sub-Saharan Africa (SSA) (Nyame et al., 2024).

Despite the seriousness of the issue, HTN often goes undiagnosed and undertreated in SSA due to limited healthcare access, poor awareness, and resource constraints (Nyaaba et al., 2020). Many studies are hospital-based, excluding undiagnosed individuals in the community and leading to underestimates of the true burden (Agimas et al., 2024; Swambulu et al., 2024). National estimates suggest HTN prevalence in Nigeria is 30.6% in urban and 26.4% in rural areas (Adeloye et al., 2015), yet few comprehensive reviews have synthesised this data in recent years.

This study aims to systematically review available literature on HTN in Nigeria—focusing on prevalence, awareness, treatment, and control—to guide public health policy and inform future interventions.

METHODS

Search Strategy

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement was adhered to in this systematic review (Page et al., 2021). To provide a more thorough and up-to-date assessment and to identify patterns and trends in knowledge, treatment, and management of HTN in Nigeria, articles published in the English language between 2002 and 2022 were taken into consideration.

If studies provided HTN prevalence estimates, they were considered. Studies on obstetrics, pharmacology, anthropology, reviews, government publications, protocols, pre-prints, studies conducted outside of Nigeria, and research on Nigerians who live outside the country were all excluded. Studies that used medical testing as part of the pre-selection process for employment opportunities were also disqualified. The results of many investigations involving the same group of patients were combined, although the references listed distinct publications outlining the incidence of HTN. Studies that merely employed self-reporting of a history of HTN without taking a blood pressure reading were disqualified. Studies that exclusively looked at HTN prevalence in men or women were excluded as well. The search was done in English and focused only on English-language articles.

To find empirical studies on HTN and overweight/obesity in adult Nigerians, PubMed, Scopus, and CINAHL were searched. The African Index Medicus, African Journal Online, WHO Global Cardiovascular Infobase, and Google Scholar were also looked up. To increase the number of studies found, the references of all pertinent research publications were manually examined.

Subject headings and free text keywords were incorporated to increase the search's breadth. A search for papers with the terms "HTN" or "BP" in the title or abstract was added to the medical topic headings (MeSH). The names of all 36 states (including FCT, Abuja) and the country Nigeria were utilised as additional key search phrases to find articles that cover the length and breadth of the African nation. The numerous keywords connected to the pertinent Boolean operations are shown in Table 1. The search technique also includes the use of HTN, high blood pressure (BP), obesity, overweight, body mass index (BMI), risk factors, and prevalence as keywords. To include the most articles, all MeSH terms and keywords were shortened and exploded.

Table 1: Search Terms

S/N	Subject Headings and Keywords
1.	Africa or sub-Saharan Africa or West/Western Africa or Nigeria
2.	Morbidity or Mortality
3.	Disease Burden or Epidemiology
4.	Hospital Admission*
5.	Case Fatality or Case Fatality Rate*
6.	Risk Factors
7.	2 OR 3 OR 4 OR 5 OR 6
8.	HTN or High BP or Cardiovascular Risk* or Hypertensive Heart Disease or Cardiometabolic Risk*

9.	Knowle*ge or Awareness or Attitude* or Behavio*r or Practice* or Treatment or Control
10.	1 AND 7 AND 8 AND 9
11.	Limit 10 to "2002-2022"

All possibly relevant publications' abstracts were examined, and complete articles were evaluated. Records with duplicates were eliminated. Following an assessment of the titles, articles that were blatantly unrelated to the topic of interest were deleted. All possibly pertinent papers' complete texts and abstracts were examined. If additional items did not meet the requirements for inclusion, they were deleted.

By dividing the total number of individuals with HTN (BP 140/90 mmHg and/or usage of antihypertensive medications) by the total participants in the included studies, the prevalence of HTN was calculated. By dividing the total study participants by the HTN prevalence in the study, the number of individuals with HTN in each study was calculated.

Data Extraction

The year of publication, study location, study methodology, participant count, mean age range, gender distribution, comorbidities, HTN prevalence, and awareness levels, therapy, or control were all gathered using a data extraction sheet. These variables were also retrieved in cases where they were present and predicted the states of awareness, treatment, and control. Results from multi-regional research were broken down wherever it was possible to indicate the level of awareness, treatment, and control in various states and areas. When it wasn't possible to separate the data by state or area, the research was presented as a whole and the states or regions where it was conducted were noted.

For their definition of HTN, the majority of studies employed the threshold of 140/90 mmHg and/or the usage of antihypertensive medications. In accordance with current WHO recommendations, a few research still employed the previous 160/95 mmHg cut-off value.

Quality Assessment

According to prior research, the quality evaluation standards for studies looking at the prevalence of chronic illnesses were used (Stanifer et al., 2014; Adeloye et al., 2017). The representativeness of provided estimates within the major geopolitical zones and the explicit explanation of methodologies, procedures, case ascertainment, and sampling were evaluated for. The quality of the studies was rated as high (4-5), moderate (2-3), or low (0-1) (see Table 2).

Table 2: Quality assessment criteria for studies examining prevalence of chronic diseases

Item	Quality criteria	Assessment	Score	Maximum score
Sampling	Was the sampling described and representative of a target subnational population?	Yes	2	2
		Not representative	1	
		Not described	0	
Statistical analysis	Was the statistical analysis appropriate?	Yes	1	1
		No	0	
Case ascertainment	Was the procedure for identification of cases clearly described?	Yes	2	2
		Ambiguous	1	
		Not described	0	
Grading	Total (*high (4-5), moderate (2-3), or low quality* (*0-1*))			5

Data Analysis

A narrative strategy was used to analyse the data. The narrative synthesis found patterns shared by the different studies, and these themes were investigated to identify potential factors with significant significance for Nigeria's attempts to manage HTN.

A meta-analysis of the given data was not possible due to the heterogeneity of the research designs and the absence of specified confidence ranges in the majority of the investigations.

RESULTS

Search Results

A total of 5,619 articles were found through the searches, the bulk of which came from the three main databases (PubMed, Scopus, and CINAHL) (see Table 3).

Table 3: Sources and Number of Studies Retrieved During the Literature Search

S/N	Data Sources	Number of Studies Identified
1.	PubMed	2678
2.	Scopus	1361
3.	CINAHL	1009
4.	WHO Global Cardiovascular Database	276
5.	African Index Medicus (AIM)	123
6.	African Journals Online (AJOL)	82
7.	Google Scholar	54
8.	Google Searches	21
9.	Reference Lists of Relevant Studies	15

3210 papers were checked for indications of a population-based research on HTN in Nigeria after duplicates were eliminated. 2023 studies were disqualified after using the selection criteria. Using the chosen criteria, 386 full text articles were specifically examined. Final selections for qualitative synthesis included 48 studies (see Figure 1).

The vast majority of research were cross-sectional population-based investigations. A total of 54,215 people were covered by the 48 studies, which were chosen from across Nigeria's six geographical zones. South-South was the region with the most studies (17), followed by South-East and South-West with 10 apiece. The North-East and North-West were each represented by three studies, while the North-Central was represented by four. Participants in one nationally representative research came from various geographic regions of the nation.

In this study, a variety of populations were covered. Nationwide, one research was undertaken. Each of the three types of settings—urban, semi-urban, and rural—saw the conduct of 37 research, including 11 in mixed urban-rural settings. Participants in the community-based research included in this evaluation were primarily drawn from market communities and resided in rural areas. The majority were housewives, small-time traders, motorcycle riders, artists, local government employees, and farmers and fishers (Omuemu et al., 2004; Ofuya, 2007; Adedoyin et al., 2008; Andy et al., 2012; Asekun-Olarinmoye et al., 2013; Adebayo et al., 2013; Ezejimofor et al., 2014).

The study's time frame spanned 2003 through 2020. The majority of the investigations, with the exception of four (Odili et al., 2008; Amira et al., 2010; Hendriks et al., 2012; Murthy et al., 2013), were carried out within a year. 15 of the 48 research were published between 2000 and 2009, 32 between 2010 and 2019, and 1 between 2020 and June 2022. As a result, the annual rate of output rose gradually from 1.5 in the 2000s to 3.2 in the 2010s before dropping precipitously to 0.1 in 2020–2022.

In the research included in this review, the sample sizes ranged from 75 individuals in a study at a medical school

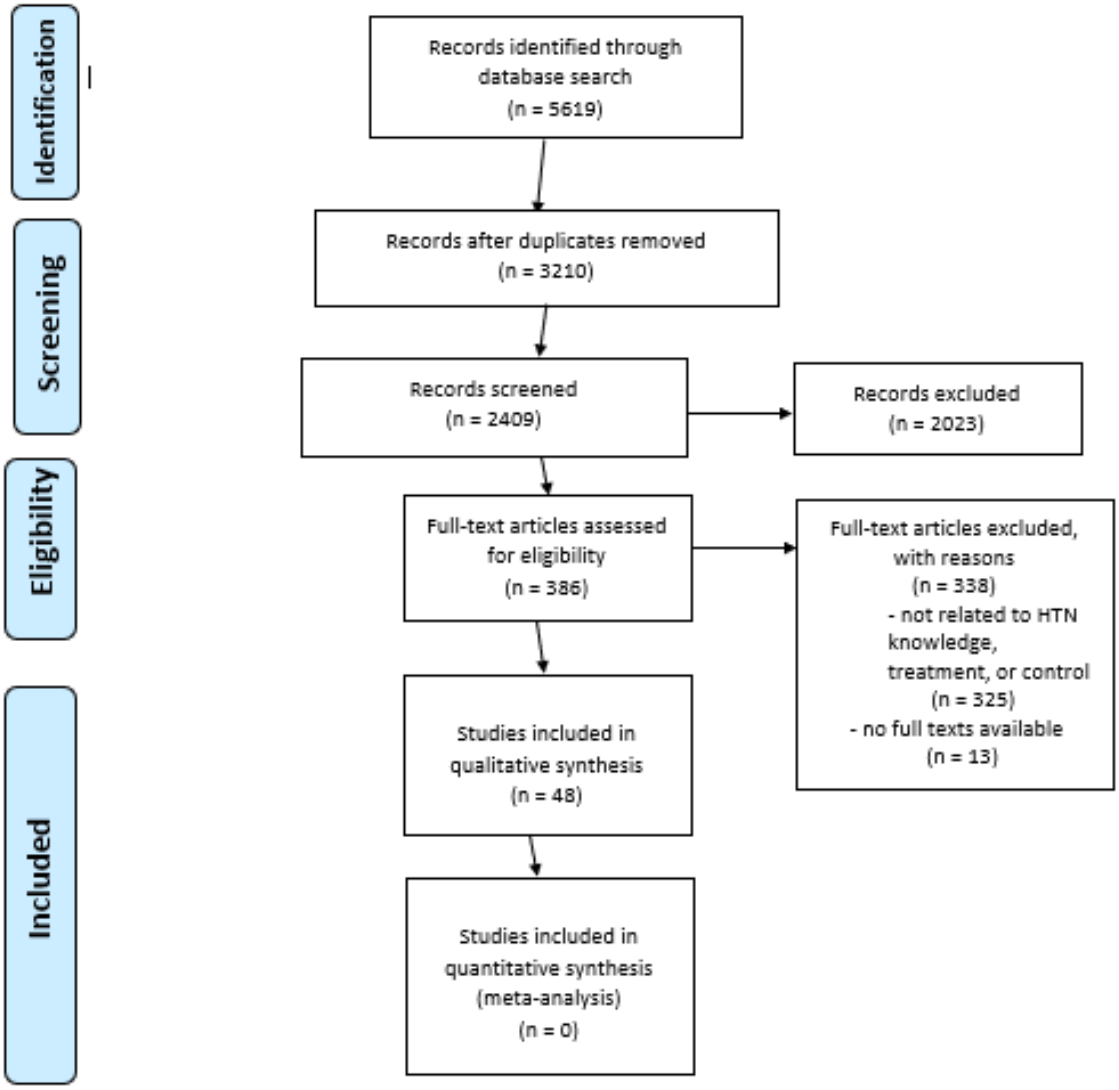

Fig. 1. PRISMA Flowchart

in Port Harcourt (Ordinioha, 2013) to 13,504 in a study conducted at several locations across the nation (Murthy et al., 2013). The participants' ages ranged from 15 to 99 years old. Both sexes (male and female) were represented in every study. More women than males took part in the majority of the research. The men were better represented in the community-based research that focused on farmers, traders, rural residents, and market communities.

The prevalence of HTN was often greater and more variable in regional studies (13.2%-55.9%) than it was in nationally representative samples (46.8-51.6%). The features of the studies are presented in Appendix 1.

Data Extraction

Appendix 2 summarises the findings of the systematic review including any factors associated with diagnosis, treatment, and control where available.

Quality Appraisal

A total of 21 studies received high ratings, while the remaining 27 received intermediate ratings (Appendix 3).

Data Analysis

1. Hypertension Prevalence

The frequency of HTN varied greatly. Comparing prevalence rates was challenging because the majority of them were not age-standardised. The incidence varied across studies that focused on populations under 40 years old, from 13.8% in a university community in the Niger Delta area (South-South, Nigeria) to 47% in the 6th battalion army barracks of Ibawa, Abak in Akwa Ibom (South-South, Nigeria) (Ekanem et al., 2012). According to research including senior people, hypertension was more common overall, with a prevalence of 65% in a rural community in Bayelsa State (Egbi et al., 2013). There were no estimates for either

gender.

2. Hypertension Awareness

This review defined awareness as previous knowledge of a hypertensive state. In rural areas of Cross River and Akwa Ibom States, awareness levels were lowest (2.8%). (Andy et al., 2012). The market people in Enugu has the greatest awareness levels (29.4%). (Ulasi et al., 2011). Adim, a semi-rural locality in Cross River State, had awareness levels of 3.1%, while rural villages in Ilorin had awareness levels of 3.0%. (Hendriks et al., 2012). According to Omuemu et al. (2004), awareness levels in Udo, a rural village in Edo State's Ovia South-West LGA, were 18.55%.

3. Hypertension Treatment Only two studies out of the 48 included in this evaluation assessed this outcome, demonstrating the paucity of research on treating hypertension (Omuemu et al., 2004; Hendriks et al., 2012). In a population-based cross-sectional study in the remote Edo State village of Udo, 18.5% of participants were aware of their hypertension condition, and 77.3% were receiving treatment for it (Omuemu et al., 2004). Only 2% of participants in rural settlements in Ilorin were found to be taking anti-hypertensive drugs, which indicates a poor treatment rate for HTN (Hendriks et al., 2012).

4. Hypertension Control

In a university town in South-West Nigeria, 14.6% of those who had HTN had previously received a diagnosis, but only 4.8% of them had their blood pressure under control; 6.4% of the responder population had just received a hypertension diagnosis (Erhun et al., 2005). In a rural community in Edo State, of the 77.3% individuals who were receiving hypertension therapy, 29.4% had appropriate blood pressure control (Omuemu et al., 2004). Only 3% of participants in Ilorin's rural areas had blood pressure readings under 140/90. (Hendriks et al., 2012).

5. Predictive Factors for Hypertension Awareness, Treatment, and Control

HTN knowledge levels were greater in females, increased with age, and, notably, reduced with better educational status in a rural community in Ovia South-West LGA of Edo State (Omuemu et al., 2004). This unexpected conclusion may be attributed to the tendency of people with higher educational levels to be busier and less able to fit in frequent blood pressure tests because they are more focused with other things, such their work. Female sex, hypercholesterolemia, and hyperuricemia were independently linked to obesity in a study of healthy individuals in Kaduna (Wahab et al., 2011). In Ahiazu Mbaisa, Imo State, over 30% of middle-aged individuals frequently drank alcohol, whereas 23% frequently ate salty foods (Mbah et al., 2013). These were all linked to risk factors for high BP along with having a high BMI.

Age, sex, obesity parameters, pulse rate, and localities in Abia State were the main predictors of high blood pressure (Ogha et al., 2013). Age, weight, height, waist-to-hip ratio, BMI, waist-to-hip circumference, and pulse rate have all been linked to HTN. Except for height, most of the covariates had a positive correlation with BP.

DISCUSSION

There is a tonne of information available about how common HTN is in Nigeria. Although prevalence was not one of the search criteria used in this analysis, various prevalence levels across areas were reported in certain publications, many of which support the continued high incidence. It is crucial to characterise not just the detection rate but also awareness, treatment, and control rates, as well as the variables that affect these rates, in a high prevalence environment like Nigeria. This would make it possible to develop pertinent, customised control measures to lessen the effects of uncontrolled HTN. This detailed study of knowledge, prevention and control efforts in Nigeria is provided by this systematic review.

The ageing population, greater urbanisation, poor lifestyle choices, and the lack of effective national preventative efforts are likely causes of the significant and consistent growth in HTN. These findings support worries that HTN and its associated sequelae may soon pose the greatest economic and public health hazard in many African nations, surpassing pandemics of malaria and other infectious illnesses (Adeloye & Basquill, 2014; WHO, 2017; Mabuza, 2020).

The frequency of HTN in Nigeria varied significantly by geopolitical zone, ranging from 25% to 33%, according to the data. The South-South region has the highest incidence, at 47%. Adeloye et al. (2021) showed a high incidence of HTN in the South-East at 33.3%, while additional research on the geographical pattern of distribution may be necessary. According to Murthy et al. (2013), the North-Central has a high incidence of 50.5%. There may be dietary variations in these areas, especially in the quantity of salt and oil used in cuisine. Without community strategies to promote healthy diets, the significant variations in socio-economic conditions have significant effects on dietary decisions, especially in urban environments characterised by high consumption of processed foods (Cappuccio & Miller, 2016; Blüher, 2019; Placzek, 2021). Additionally, Nigeria's fluctuating weather and climatic circumstances have a significant impact on farming and the types of food crops grown, which may be another

crucial element in the dietary variations. The findings showing a greater prevalence of HTN in urban inhabitants and those who are older are in line with the results of various other investigations (Twagirumukiza et al., 2011; Addo et al., 2012; Adeloye & Basquill, 2014; Anchala et al., 2014; Adeloye et al., 2021).

Although prior predictions, with a 5% disparity in 2010 (Adeloye et al., 2015) and 2% in 2020 (Adeloye et al., 2021), clearly show a diminishing prevalence gap between men and women, no sex-specific estimates of HTN prevalence were published in this research. There has been evidence that women have a somewhat greater frequency of HTN than males (Murthy et al., 2013; Adeloye et al., 2021). There may be a connection between the increased frequency of HTN in women with the rise in obesity, decline in physical inactivity, and bad eating habits (Owolabi et al. 2017; Mahumud et al., 2021; Gaesser & Angadi, 2021). In addition, women seem to experience severe mental, psychological, and emotional repercussions from Nigeria's growing security issues, with frequent panic episodes likely having a negative impact on many people's general cardiovascular health (Amusan & Ejoke, 2017; Kendrick & Isaac, 2021). Additionally, it is important to keep in mind that women are more likely to take part in community medical outreach initiatives, which might result in selection bias and significantly greater prevalence reported for women (Adeloye et al., 2015).

Results from this review indicate that knowledge of hypertension state is often low. The highest degree of awareness was 29.4%. These rates are lower than those in other African nations like South Africa and Zimbabwe, where they are above 30%. (Goverwa et al., 2014; Adeniyi et al., 2016; Owolabi et al., 2017). Reducing the burden of cardiovascular disease involves addressing the comparatively small rates of awareness, treatment, and management of HTN in Nigeria. In comparison to North America and Europe, where temporal assessments have indicated an increase in awareness from 20 years ago, when levels were similar to those now reported in Africa, to the current pace of over 65%, the levels in Africa are far lower (McAlister et al., 2011). Since it was discovered that HTN had a significant role in morbidity and death in these nations, intensive education efforts on HTN have been credited with the majority of this increased awareness. While the diverse nature of the research designs in this evaluation prevented the creation of a temporal trend, Tanzania, a country that had numerous consecutive trials, did not experience any change. It is feasible that more knowledge and thus increased awareness would result from a comparable recognition of HTN as the primary cause of mortality.

Our research discovered significantly higher treatment rates in North Africa than it did anywhere else on the continent. It's likely that these high standards of care are influenced by the existence of healthcare coverage in nations like Tunisia, which encompasses both treatment and diagnostic services. Universal health care coverage has improved HTN diagnosis and management in industrialised countries like the USA, resulting in a decrease in HTN-related hospitalizations and fatalities (Joynt et al., 2013). In nations like South Africa that strive to achieve universal health care, the situation with HTN may improve. Nationalized health insurance is still out of reach in various regions of Africa. The majority of Africans pay for their own medical expenses, which are somewhat supplemented by a few free services provided by the government and donor organisations. These organisations primarily target the treatment of infectious diseases, with HIV/AIDS control efforts receiving the largest chunk of this financing (Bala & Kang'ethe, 2021; Bloom et al., 2022). This necessitates the development of more creative methods for funding chronic non-communicable illness care throughout the continent.

The research taken into account for this evaluation showed generally poor control rates of HTN. The South-West has the lowest control levels. Even in states with high treatment rates, BP control was difficult to achieve. The definitive determinant of outcomes, control, cannot be assured by HTN therapy. Numerous research from diverse locations that were included blamed various variables for the ineffective BP management. These may typically be categorised as flaws in the healthcare system, patient noncompliance, and doctors' indifference to treating HTN. Examples of typical health system flaws impeding the attainment of control include the absence of anti-hypertensive medicines at medical facilities and the great distance to the facilities as documented in several research. On the other hand, stated competing priorities and a lack of time are common patient and physician variables that exacerbate the issue.

Directions for Future Research

Discussions of the developments in awareness, therapy, and management of HTN were confounded by the cross-sectional character of the research included in this review. To investigate the patterns of HTN status, monitoring or follow-up cohorts must be conducted.

Future research must examine the variables that lead to the high frequency of HTN in Nigeria. Studies should provide internationally comparable prevalence rates to enable comparisons across age groups, sexes, regions, and time periods worldwide. Such study is necessary for creating and devising affordable awareness and

preventive programmes that would assist people in getting over these obstacles.

Studies should also expand on the advantages of earlier research, such as the utilization of nationally representative and high sample sizes. The environmental variables that may influence the development of predictors of CVDs might be effectively characterised by longitudinal studies of immigrants from Nigeria beginning at the time of relocation to industrialised countries.

Considering that there is presently a dearth of study in these areas, it is equally important to investigate HTN knowledge, diagnosis, and management as well as CVD risk factors.

Strengths and Limitations

The heterogeneity of the studies included in this review made further analysis challenging. Variations in population characteristics, BP measurement procedures, and overall research designs are reflected in the variability between studies.

This review was challenging due to the scarcity of high-quality, sizable, and comparable research. Although the data show that perhaps the prevalence estimates of HTN and overweight/obesity are high, it was not able to establish a direct connection between temporal trends and rising HTN and overweight/obesity prevalence. The analysis, interpretation and comparability of the data were restricted by the lack of estimates that were sex- and age-specific.

The majority of research studies neglected to examine the reasons that related to the nation's present HTN situation, necessitating a thorough investigation of these issues in order to guide treatments and policy. Non-random participant selection in several of the research was another flaw (Ulasi et al., 2011; Ugwaja et al., 2015).

Only 10 of the 48 studies that were examined in this review were carried out in the Northern areas, and information on prevalence by age, sex, and geographic location was not consistently supplied. Although the reason for this is unclear, it has been noted in previous literature (Adeloye et al., 2016; Adeloye et al., 2017; Adeloye et al., 2021) and may be an indication of the region's general potential for research.

The study's positives, such as the substantial number of papers it found, its robust methods, and its supply of thorough measures of awareness, management, and control of HTN in Nigeria, more than offset these drawbacks to a great extent.

CONCLUSION

To lessen the consequences of hypertension (HTN) in Nigeria, effective and comprehensive national population prevention initiatives are required. Occupational health programs should aim to raise workers' knowledge of health issues generally, encourage healthy behavior, test for risk factors, and implement integrated non-communicable disease (NCD) control. It is important to promote interventions to lower blood pressure in low-income nations, such as health education, exercise breaks at work, staff training, and the establishment of regulations. Health promotion interventions have improved food habits, physical activity, and weight reduction (Spring et al., 2021). The nation's several states should create or update their coordinated NCD policies and strategies, carry out WHO STEPS risk factor surveys, and improve primary care for NCD patients. As a basic preventive measure, there is a need to boost health promotion in the populace. Additionally, more public health education is required to raise hypertension awareness and its consequences. Communities around the nation need to implement programs to manage hypertension, and there has to be an increase in the number of population-based detection methods for NCDs and cardiovascular disease (CVD) risk factors. The adoption of healthy lifestyles, such as weight management, exercise, a sodium-reduced diet, and moderate alcohol use, should be emphasized in primary preventive programs as an efficient way for HTN prevention and control. In order to reduce HTN affliction and death in young adults, beginning HTN screening should be implemented nationwide. The best way to stop an outbreak of HTN is to increase knowledge, control, and treatment of the condition while also promoting healthy lifestyle adoption and maintenance among Nigerians. To follow developments and shifts in HTN status and to build national policies to limit HTN outbreaks, Nigeria should also conduct frequent national health surveys that include accurate assessment of HTN status.

Nigeria's successful initiatives and programs will encourage and direct other African nations to implement these HTN screening and awareness-raising preventive programs. Research is also required to determine the causes of regional variations in the HTN prevalence as well as the reasons why some regions of the nation lack urban-rural inequalities. Another issue that has to be addressed is the absence of empirical information to evaluate national trends. HTN is becoming more of a problem in Nigeria. The lack of therapy and awareness is confirmed by this systematic study. Most importantly, the degree of control is appalling, indicating that diagnosis and therapy do not ensure achieving control goals. This circumstance explains why HTN patients in the nation have poor

results. Patient variables are significant control factors, even if health system considerations play a significant role in maintaining this scenario. To enhance patient outcomes with HTN, research and policy must be specifically adapted to the gender and geographic distribution of these characteristics. On a continent where the focus has up to now been on the management of severe infections, it is also necessary to establish customized chronic care models.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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APPENDIX

Appendix 1: Study Characteristics

S/N	Author	Study Year	Location	Geopolitical Zone	Study Design	Sample Size	Study Setting
1.	Adebayo et al.	2013	Ipetumodu, Edunabon, and Moro Communities in Ife North, Osun State	South-West	Community-based cross-sectional study	1,000	Rural
2.	Adedoyin et al.	2008	Ile-Ife, Osun State	South-West	Community-based cross-sectional study	2,097	Semi-urban
3.	Adedoyin et al.	2012	Maiduguri, Borno State	North-East	Population-based, cross-sectional study	1,004	Semi-urban
4.	Adika et al.	2011	Wilberforce Island, Bayelsa State	South-South	Descriptive cross-sectional study	100	Urban
5.	Agaba et al.	2014	Jos, Plateau State	North-Central	Descriptive cross-sectional study	883	Urban
6.	Akinbodewa et al.	2014	Akure & Ondo, Ondo State, Nigeria	South-West	Descriptive cross-sectional study	1,183	Mixed
7.	Akpa et al.	2008	Port Harcourt, Rivers State	South-South	Descriptive cross-sectional study	207	Urban
8.	Akpan et al.	2015	Akwa Ibom State	South-South	Population-based cross-sectional study	1,568	Urban
9.	Amira et al.	2010	Lagos State	South-West	Descriptive cross-sectional study	1,368	Urban
10.	Amole et al.	2008	Ogbomoso, Oyo State	South-West	Descriptive cross-sectional study	400	Mixed
11.	Andy et al.	2012	Cross River & Akwa Ibom States	South-South	Population-based cross-sectional study	3,869	Rural
12.	Asekun-Olarinmoye et al.	2013	Alajue and Ibokun, Osun State	South-West	Community-based, descriptive cross-sectional study	259	Rural
13.	Awosan et al.	2013	Sokoto, Sokoto State	North-West	Descriptive, cross-sectional study	390	Semi-urban

14.	Bello-Ovosi et al.	2017	Kawo, Kaduna State	North-West	Population-based cross-sectional study	181	Urban
15.	Chukwuonye et al.	2013	Abia State	South-East	Population-based cross-sectional study	2,983	Mixed
16.	Egbi et al.	2013	Yenegoa, Bayelsa State	South-South	Population-based cross-sectional study	231	Rural
17.	Ejim et al.	2006	Enugu, Enugu State	South-East	Population-based cross-sectional study	858	Rural
18.	Ekanem et al.	2012	Abak, Akwa Ibom State	South-South	Descriptive cross-sectional study	442	Semi-urban
19.	Ekpe & Elemi	2016	Adim, Cross River	South-South	Population-based cross-sectional study	824	Rural
20.	Ekwunife et al.	2009	Nsukka, Enugu State	South-East	Population-based cross-sectional study	756	Mixed
21.	Emerole et al.	2007	Owerri, Imo State	South-East	Descriptive cross-sectional study	241	Urban
22.	Erhun et al.	2003	Ile-Ife, Osun State	South-West	Descriptive cross-sectional study	1,000	Semi-urban
23.	Ezejimofor et al.	2014	Rivers State	South-South	Community-based cross-sectional study	2,028	Rural
24.	Funke et al.	2013	Jos, Plateau State	North-Central	Descriptive cross-sectional study	340	Urban
25.	Hendriks et al.	2012	Ilorin, Kwara State	North-Central	Population-based cross-sectional study	2,678	Rural
26.	Ibekwe et al.	2015	Oghara, Delta State	South-South	Descriptive cross-sectional study	272	Rural
27.	Idris et al.	2020	Lagos, Lagos State	South-West	Community-based cross-sectional study	215	Mixed
28.	Ige et al.	2013	Ibadan, Oyo State	South-West	Descriptive cross-sectional study	525	Urban
29.	Mbah et al.	2012	Nsukka, Enugu State	South-East	Population-based cross-sectional study	200	Semi-urban
30.	Murthy et al.	2013	Nationwide	Multi-Zonal	Population-based cross-sectional study	13,504	Mixed

31.	Odili et al.	2008	Benin, Edo State	South-South	Retrospective study	501	Urban
32.	Ofuya	2007	Port Harcourt, Rivers	South-South	Population-based cross-sectional study	200	Rural
33.	Ogah et al.	2012	Umuahia, Abia State	South-East	Population-based cross-sectional study	2,983	Mixed
34.	Oghagbon et al.	2007	Ilorin, Kwara State	North-Central	Population-based cross-sectional study	281	Urban
35.	Oguoma et al.	2015	Kwale, Delta State	South-South	Population-based cross-sectional study	417	Mixed
36.	Okafor et al.	2014	Enugu, Enugu State	South-East	Population-based cross-sectional study	775	Urban
37.	Oladapo et al.	2005	Egbede, Oyo State	South-West	Descriptive cross-sectional study	2,000	Rural
38.	Olisa & Oyelola	2009	Maiduguri	North-East	Descriptive cross-sectional study	500	Semi-urban
39.	Omorogiuwa et al.	2008	Ekpoma, Edo State	South-South	Descriptive cross-sectional study	1,200	Urban
40.	Omuemu et al.	2004	Edo State	South-South	Community-based cross-sectional study	590	Rural
41.	Ordinioha	2013	Port Harcourt, Rivers State	South-South	Descriptive cross-sectional study	75	Urban
42.	Ordinioha & Brisibe	2013	Omoku, Rivers State	South-South	Descriptive cross-sectional study	106	Mixed
43.	Oyeyemi & Adeyemi	2013	Maiduguri, Borno State	North-East	Population-based cross-sectional study	292	Semi-urban
44.	Ugwuja et al.	2015	Igbeagu, Ebonyi State	South-East	Population-based cross-sectional study	267	Rural
45.	Ulasi et al.	2010	Enugu, Enugu State	South-East	Population-based cross-sectional study	1,458	Mixed
46.	Ulasi et al.	2011	Enugu, Enugu State	South-East	Population-based cross-sectional study	688	Mixed
47.	Wahab et al.	2006	Katsina, Katsina State	North-West	Population-based cross-sectional study	300	Urban

48.	Wokoma et al.	2011	Barako, Rivers State	South-South	Descriptive cross-sectional study	152	Rural

Appendix 2: Data Extraction Table

S/N	Author	Study Year	Study Objective	Sampling Strategy	Outcomes	Findings	Comments
1.	Adebayo et al.	2013	To ascertain the frequency of HTN in individuals living in the South-West Nigerian villages of Ipetumodu, Edunabon, and Moro.	Using a multistage proportionate stratified random sample approach over a 6-month period, 1000 persons between the ages of 15 and 90 were recruited.	Prevalence of HTN	Based on the 140/90 mmHg criteria, the prevalence of HTN was 26.4% (Male: 27.3%; Female: 25.4%). Based on the 160/95 mmHg criteria, the prevalence of HTN was 11.8% (Male: 13.5%; Female: 10.1%). Significantly favourable relationships were found between certain anthropometric obesity markers and blood pressure.	In all three communities, there was found evidence of an upward trend in the prevalence of HTN. Additionally, in this cohort, there was a strong positive connection between anthropometric obesity markers and BP.
2.	Adedoyin et al.	2008	To find out how common and prevalent HTN is among the adult population in the historic semi-urban area of Ile-Ife, South-West Nigeria.	Through a multistage cluster sample approach, 2097 people over the age of 20 were enlisted in the door-to-door survey.	Prevalence of HTN	Using the cut-off threshold of BP higher than or equal to 140/90 mmHg, 22.1% had isolated systolic HTN and 14.5% had isolated diastolic HTN. For blood pressure levels more than or equal to 140/90 mmHg and 160/95 mmHg, respectively, a male-to-female ratio of 1.7:1 and 1:5 was seen. As people aged, the frequency of HTN	The estimates of the prevalence of HTN revealed in this study were greater than those discovered in the majority of other investigations conducted in Nigeria, other countries in West Africa, and among African Americans.

						rose from young to elderly individuals.	
3.	Adedoyin et al.	2012	To find out how common HTN and obesity are as preventable cardiovascular risk factors in a low-income semi-urban area of Northeast Nigeria.	A multi-stage cluster sampling strategy was used to draw in 1004 persons aged 20 and older.	Prevalence, Awareness, Treatment and Control of HTN	40.3, 25.2, 15.4, and 3.8% of people had pre-HTN, HTN, were overweight, or were obese. The odds ratios for HTN were 2.75 (1.25-6.04) and 1.62 (0.068-3.82), respectively, with a 95% confidence interval for obese individuals compared to normal weight and overweight patients.	The most common cardiovascular risk factors in the research population were PreHTN and HTN in that order. Participants who were obese had a relative risk for HTN that was around three times higher than those who were normal weight and roughly two times higher than those who were overweight.
4.	Adika et al.	2011	To measure non-academic staff members' understanding of HTN in a university setting in Nigeria's Bayelsa State.	For the study, 100 participants were recruited. With a mean age of 38.4, there were 53% females and 47% men.	Awareness of HTN aetiology, risk factors and prevention	The majority of employees (73%) believed excessive thinking, worry, or stress to be the cause of heart disease, whereas 27% were unable to understand this fact. 59% of them were able to identify the possibility of a genetic basis for HTN. Despite the fact that the majority of respondents (72%) were able to recognise that a high-salt diet is a risk factor for HTN, high-fat diet, smoking, and alcohol use were each found to be responsible by 80, 45, and 43% of respondents, respectively, demonstrating	Employees who were not academics have inadequate HTN expertise. The solution to effective control and treatment of the health and financial burden of HTN remains strengthening the body of information on the condition.

						insufficient understanding of risk factors. A further 30% were unaware that HTN cannot be cured once in a lifetime, and 65% did not realise that HTN maintenance is for life. About 80% and 75% of the participants shown sufficient knowledge on regular drug intake, BP monitoring, and measurement, however 80% did not understand the need of weight loss techniques for treating HTN.	
5.	Agaba et al.	2014	To assess the risk factors for NCDs and the prevalence of those conditions among students at a university in Jos, Nigeria.	All university staff received invitations to the University Health Clinic for screenings using the STEPwise approach to NCDs recommended by the World Health Organization. Ultimately, 883 people were hired.	Awareness of risk factors of NCDs.	The most frequent NCD risk factors included dyslipidemia, inactivity, and poor fruit and vegetable intake. Others included smoking cigarettes, drinking alcohol, and being obese. The most prevalent NCD was HTN, which was followed by diabetes mellitus and chronic renal disease. The prevalence of NCDs showed no gender-specific differences.	The study found that NCDs and the risk factors for them are quite common in this group. Workplace policies are required to encourage the healthier lifestyles lifestyles.
6.	Akinbodewa et al.	2014	To quantify classic CKD risk variables, pre-HTN	There were 1,183 adults in total (M:F, 0.63:1) in the study. Their biographical	Prevalence, treatment and control of pre-HTN and HTN.	Pre-HTN was prevalent in 32.3% of the participants, whereas HTN was found in 43.4% of them; 6.2% of the	The population of Ondo State, Nigeria, has a high prevalence of pre-HTN and established CKD

			risk factors, and proteinuria correlations.	information, past use of cigarette smoking, alcohol, herbal remedies, NSAID use, diabetes, and HTN were gathered.		patients reported having ever had diabetes; 4.5% had smoked; 68.3% had used herbs; and 44.1% had used NSAIDs. Haematuria was detected in 1.7% of the individuals, whereas 25.9% of the subjects had proteinuria. Age and blood pressure significantly correlated with proteinuria.	risk factors. Pre-HTN sufferers should regularly be tested for CKD and appropriate referral done to a nephrologist for early treatments.
7.	Akpa et al.	2008	To assess the level of blood pressure management among HTN patients being treated at the University of Port Harcourt teaching hospital's specialised medical outpatient clinic (MOPD).	Patients who were being treated for HTN alone or with other conditions at the UPTH cardiology clinic served as the study's participants. Over the course of the trial, consecutive patients who provided informed permission were enlisted as study participants.	HTN control	All research participants had an average systolic blood pressure of 14919.33mmHg and an average diastolic blood pressure of 93.4813mmHg. 50 individuals in total (24.2%) had managed blood pressure that was less than 140/90mmHg.	Low numbers of hypertensive individuals were able to maintain appropriate blood pressure levels. To maximise the benefits of antihypertensive medication, it is necessary to identify and address the obstacles to optimal blood pressure management.
8.	Akpan et al.	2015	To ascertain the frequency of HTN as well as its correlates in Akwa Ibom State, Nigeria's rural and	The state's three senatorial districts were divided into two urban and two rural areas at random.	Prevalence, Awareness, Treatment and Control of HTN	The mean arterial BP, systolic blood pressure, and diastolic blood pressure were all greater in rural people than in urban people. In contrast to urban areas, rural areas had a much greater frequency of HTN. HTN	In Nigeria's rural villages, the frequency of HTN has changed epidemiologically. These epidemiologic trends show that the previously observed difference in the frequency of HTN between urban and rural groups is

			urban areas.			incidence was independently predicted by age, BMI, and proteinuria.	steadily disappearing, necessitating the urgent implementation of preventative efforts.
9.	Amira et al.	2010	In an urban area of Lagos, Nigeria, obesity prevalence will be assessed, along with its association to HTN.	Every World Kidney Day from 2006 to 2010, Ikeja, the administrative centre of Lagos state in South-West Nigeria, performed a population-based screening for CKD risk factors. All volunteers who were older than 18 years old were enlisted.	Prevalence, Awareness, Treatment and Control of HTN	Obesity and overweight were prevalent in 32.7% and 22.2% of people, respectively. The prevalence of obesity was highest in the age period of 45 to 54 years, and it was greater in women than in men, with a rate of 29.5% in women vs 15.7% in males. HTN was prevalent in 33.3% of the population, with rates greatest in people over 65 (58%). The risk of getting HTN was 2.59 times higher in obese participants. 39 participants (3.6%) experienced proteinuria, with 4.9% of obese people and 2.4% of non-obese people experiencing it.	According to this study, obesity and HTN are very common in Lagos. An important independent HTN risk factor is obesity. As a result, coordinated efforts should be undertaken to stop this unhealthy trend by encouraging health education that places a focus on the related risk factors for obesity, such as eating patterns and weight increase.
10.	Amole et al.	2008	To ascertain the HTN and obesity prevalence among people presenting to the Baptist Medical Centre in Ogbomoso	400 adults who were at least 18 years old were sought out. Participants filled out a standardised questionnaire as well as measures of their blood pressure and weight.	Prevalence of HTN and obesity	The prevalence of obesity overall, according to WC, was 33.8% (men: 8.9%; women: 53.8%). Women spend a lot more time sitting down compared to men (62.4% vs. 50.8%, p 0.05). In the majority of instances (85.2%, p	In this scenario, it was discovered that women had a disproportionately high prevalence of abdominal obesity, which was linked to HTN, sedentary lifestyles, and calorie-dense diets.

			, Nigeria, as measured by waist circumference (WC), and to further ascertain if there was any relationship between abdominal obesity and HTN.			> 0.05), families of obese people preferred high-energy meals. HTN was present in 50.5% of the study population overall, with no appreciable difference between males and females (52.0% for men vs. 49.3% for women, p > 0.05). However, HTN prevalence was 60.0% in the subgroup of obese persons.	
11.	Andy et al.	2012	To evaluate the impact of HTN on public health in rural areas of Nigeria's Niger Delta.	The community of Okoyong in the Odukpani Local Government Area was chosen as the site for the study of rural Efiks in Southern Cross River State. Select fishing communities in the Eastern Obolo Local Government Area in the Akwa Ibom State region of the country called Obolos were researched. At a few settlements in the mostly agricultural community of Obot Akara, the rural Annangs/Ibibios of Akwa Ibom State were researched.	Prevalence of HTN	The prevalence of obesity overall, according to WC, was 33.8% (men: 8.9%; women: 53.8%). Women spend a lot more time sitting down compared to men (62.4% vs. 50.8%, p 0.05). In the majority of instances (85.2%, p > 0.05), families of obese people preferred high-energy meals. HTN was present in 50.5% of the study population overall, with no appreciable difference between males and females (52.0% for men vs. 49.3% for women, p > 0.05). However, HTN prevalence was 60.0% in the subgroup of obese persons. 2.8% of people have heard of HTN before. 914 people,	Even though obesity and smoking are extremely rare in these two states (Cross River and Akwa Ibom), HTN is already a significant public health burden in rural areas.

						or 23.6% of the population, had HTN; 31.2% of men and 18.1% of women. HTN was more common among 479 (25.5%) Ibibio/Annangs, 287 (25.6%) Efiks, and 130 (14.9%) Obolos than in the other ethnic groups. 17.2% of the population as a whole, 17.5% of men, and 16.9% of women, had preHTN (P=.66).	
12.	Asekun-Olarinmoye et al.	2013	To find out how common HTN is in two rural villages in Nigeria's Osun State.	This population-based cross-sectional descriptive study included a consenting adult population from the Alajue and Obokun rural areas in southwest Nigeria who had shown up for the screening procedure.	Prevalence of HTN	HTN was prevalent (13.16%). While 11 (4.2%) only had isolated diastolic HTN, seventeen (6.6%) only had isolated systolic HTN. 48 (18.5%) had ever used antihypertensive medications on a regular basis, while 236 (91.1%) engaged in daily exercise lasting at least 30 minutes. A family history of HTN was reported by four individuals (1.6%). The respondents' average body mass index (BMI) was 23.4 4.9 kg/m2, and 51 (19.6%) had a BMI between 25 and 29.9; 30 (11.5%) had a BMI under 30.	In the study population, HTN was quite prevalent. It is strongly advised to step up primary preventive measures to stop this development in Nigerian communities.

13.	Awosan et al.	2013	To evaluate the eating habits, way of life, nutritional condition, and prevalence of HTN among Sokoto's businesspeople.	From November to December 2012, 390 dealers chosen by a multistage sample process participated in a cross-sectional descriptive survey. Participants had anthropometric and blood pressure measures, as well as questionnaire distribution.	Prevalence and Control of HTN	The participants had a prevalence rate of unhealthy dietary habits: 50.7% ate their largest meal at dinner, 49.9% snacked frequently, 66.7% consumed fatty foods, 27.1% and 33.0% drank fruit juice and carbonated beverages at least three times per week, and 56.0 and 58.8% consumed less than three servings of fruits and vegetables per week or none at all. Additionally, 50.7% have a sedentary lifestyle, 5.2% smoke cigarettes now, and 10.8% drank alcohol during the last 30 days. Similar to this, there was a significant prevalence of HTN (29.1%), obesity (28.1%), and overweight (28.9%) among the subjects.	According to this study, there is a significant prevalence of bad eating and lifestyle choices among Sokoto traders, as well as a high incidence of overweight, obesity, and HTN. The promotion of good eating habits and lifestyle, particularly among high risk populations, is encouraged through health education and other interventions.
14.	Bello-Ovosi et al.	2017	To evaluate the prevalence and correlations of HTN and diabetes mellitus (DM) in a city in North-West Nigeria.	Interviews and HTN and DM screenings were conducted with adults who participated in a medical outreach programme and were 18 years of age or older. Blood pressure, blood sugar, and anthropometry were assessed using	Prevalence of HTN and DM	HTN and DM prevalence rates were 55.9% and 23.3%, respectively. Age over 40 and being a woman were related to risk factors for HTN and DM, respectively (p 0.05). Systolic hypertension and age (r = 0.18, p = 0.02), diastolic hypertension and body mass index (r = 0.16, p = 0.03),	Due to the high incidence of HTN and DM in the study group, population-based public health initiatives aiming at lowering their risk factors must be developed and implemented.

				standardised equipment and procedures.		blood glucose and waist circumference (r = 0.19, p = 0.02) all showed modest correlations.	
15.	Chukwuonye et al.	2013	To look at the incidence of abdominal obesity in Nigeria's Abia State.	Communities in the state's three senatorial zones were used to find research participants. The Stepwise Approach to Surveillance of Chronic Disease Risk Factors developed by the World Health Organization was applied. Additionally, pertinent information such as the anthropometric measures and body mass index were gathered.	Prevalence of HTN	Body mass index data showed that 11.12% of people in the population were obese. It was 7.73% for males and 14.37% for women, respectively. In the general population, abdominal obesity was prevalent (21.75%). It was 3.2% for males and 39.2% for women, respectively.	Nigeria has a high rate of abdominal obesity, which has to be watched since it raises the risk of cardiovascular disease.
16.	Egbi et al.	2013	To ascertain HTN prevalence and contributing elements in the Ogboloma community in Nigeria's Bayelsa State.	All qualified respondents were randomly selected from the group. BP, anthropometry, clinical history, and sociodemographic information were recorded.	Prevalence of HTN, risk factors for HTN	HTN was present in 50.4% of cases, while pre-HTN was observed in another 41.2%. Age, BMI, waist-hip ratio, hyperglycemia, and smoking were factors connected to HTN in a univariate study. On multivariate analysis, only smoking and age remained significant.	In this remote area, HTN and Pre-HTN were very common. HTN was significantly predicted by smoking and age. Therefore, rural areas and smokers should be the focus of HTN screenings and treatment programmes.

17.	Ejim et al.	2006	To determine the prevalence of the main cardiovascular-related risk factors in middle-aged and elderly people in a rural community in Nigeria who are both male and female and between the ages of 40 and 70.	Eight hundred families in total were chosen at random, and all of the adults in these households between the ages of 40 and 70 were chosen for the study. 858 people in total volunteered to participate and showed up at the health centres for the research. 70.4% of respondents responded.	Prevalence of major cardiovascular risk factors.	The prevalence of the various cardiovascular risk factors was as follows among the 858 subjects: HTN was present in 398 (46.4%), general obesity as measured by BMI was present in 257 (30%), abdominal obesity was present in 266 (31%) and dysglycemia was present in 38 (4.4%) and hypercholesterolemia was present in 32 (3.7%). While the other conditions were more common in women, HTN and dysglycemia were more common in males. Only HTN ($p = 0.17$) and hypercholesterolemia ($p = 0.13$) did not show a gender-related correlation that was statistically significant. The age group of participants with the highest CVD prevalence and risk factors was 65 to 70.	Rural communities are seeing an increase in the prevalence of CVD risk factors. HTN and obesity are more prevalent in the rural population than the other cardiovascular risk factors that are frequently evaluated. Larger community health awareness initiatives are necessary given the effects of these adverse outcomes and the general lack of awareness of them.
18.	Ekanem et al.	2012	To ascertain high BP prevalence in a Nigerian semi-urban neighbourhood.	An extensive questionnaire that included anthropometric measures was used to gather the data.	Prevalence of HTN	As a consequence of the study, 47.0% of the population had elevated blood pressure (>140/90mmHg). Age, sex, greater income, more family members living in the home, everyday smoking habits, regular alcohol use, and	The necessity for intervention and preventative measures to stop the impending pandemic of HTN in this particular neighborhood and Nigeria in general cannot be overstated because elevated BP is highly prevalent in

						BMI all revealed an elevated risk for high blood pressure on a univariate level. However, participants who slept for at minimum eight hours per day demonstrated a protective effect against elevated BP.	this semi-urban neighbourhood.
19.	Ekpe & Elemi	2016	To ascertain the frequency of HTN in the remote community of Adim in the Nigerian state of Cross River.	Respondents were chosen at random from a group of 20 to 65-year-olds.	Prevalence of HTN	Only 5 (3.1%) individuals knew they had hypertension. There were 19.9% of people with HTN.	HTN was very common in this neighbourhood. Since many Nigerians reside in rural areas and HTN is a major cardiovascular risk factor, decisive action must be made to battle this pandemic.
20.	Ekwunife et al.	2009	To evaluate the prevalence of HTN and its identification, treatment, and management in the city of Nsukka in South-East Nigeria.	South-East	Prevalence, Awareness, Treatment and Control of HTN	HTN prevalence was 21.1%. Men were more likely than women to have high blood pressure. Both in males and in women, systolic and diastolic blood pressure increased with age. In individuals with elevated blood pressure, high blood pressure was discovered in 40.3% of men and 24.7% of women, respectively. Only 5.0% of hypertensive males and 17.5% of hypertensive females had their blood pressure under	The findings indicated ineffective HTN identification, management, and control. This emphasises the requirement for a thorough analysis of HTN as well as other cardiac diseases' prevalence in Nigeria.

						control, compared to 23.7% and 17.5% of those with high blood pressure, respectively. HTN prevalence in Nigeria and Africa was comparable to other research.	
21.	Emerole et al.	2007	To calculate the staff members' heart risk scores at the Federal University of Technology in Owerri, Imo State, Nigeria.	At the Federal University of Technology, Owerri (FUTO), Imo State, Nigeria, a total of 100 senior and 141 junior staff members were chosen at random. Age, heredity, BMI, smoking, exercise, calculation of serum cholesterol, systolic blood pressure, and sex were all recorded using a questionnaire.	Prevalence of cardiovascular risk factors	In terms of gender composition, family history of CVD, tobacco consumption, or serum cholesterol, there were no appreciable differences between both the older and younger employees. The age distribution values among senior personnel were much greater.	It is highly advised to implement health education campaigns aimed at improving lifestyle.
22.	Erhun et al.	2003	To ascertain the frequency of HTN in an Ile-Ife, Osun State, university community.	Adults over the age of 21 who were employed by the university at the time of the study as academic or non-academic employees made up the study population. Out of 5000 people chosen from all of the university's faculties and service	Prevalence of HTN	The respondent population's overall crude prevalence was 21%. 16% of them were already taking medication for their condition. The study found no conclusive evidence of a link between coffee intake and HTN ($p>0.05$). In individuals with more than three children, the prevalence was 32%; in subjects with eye problems,	The population has to be made more aware of the condition and some other cardiovascular-related risk factors, and self-measurement BP equipment should be made available or encouraged to be owned.

				divisions, 1000 respondents' agreement was acquired after being informed of the study's goal. A standardised questionnaire was utilised to conduct an interview with them, gather basic demographic and socioeconomic information, and determine any history of HTN.		diabetics, and subjects who consumed local kola nuts, it was 18.6%, 1.9%, and 7.4%, respectively.	
23.	Ezejimofor et al.	2014	To calculate the burden of HTN in a region of Nigeria called the Niger Delta that is heavily contaminated with gas and oil.	2,028 locals (aged 18 to 80) were enlisted. Anthropometric measurements, lifestyle and sociodemographic variables, cardiovascular comorbidities, and the prevalence and risk of HTN were investigated and compared between the two groups.	Prevalence of HTN	37.4% of the subjects had high blood pressure. 51 percent of participants came from places with oil pollution. Only 15% of individuals mentioned having HTN in their families. Individuals in the adjusted model who lived in oil-polluted regions had a nearly 5-fold higher risk of developing HTN than participants who lived in areas without pollution.	An elevated risk of HTN may be linked to exposure to oil/gas pollution. The results require more investigation in longterm investigations.
24.	Funke et al.	2013	To look into staff members' attitudes and behaviours about BP monitoring	The hospital's 344 staff were chosen using the stratified sampling approach. A systematic questionnaire	Awareness, attitudes, and practices towards HTN	10.3% of respondents had never had their weight examined, and more than half of respondents seldom monitor their blood pressure	A change in health professionals' attitudes about routine blood pressure checks will aid in early diagnosis, effective

			and weight control, as well as their patterns of blood pressure and body mass index (BMI).	was used to collect information about educational background, profession, monitoring of blood pressure and weight, and physical assessment for both blood pressure and body mass index.		(apart from when they are sick). Only 29.5% of respondents had normal blood pressure, whereas 36.6% of respondents had HTN. Only 21% of respondents thought they were overweight, despite the fact that a sizable majority (72%) were either overweight or obese. Comparing obese and non-obese patients, obese people were more likely to have hypertension. Obesity was independently correlated with both female sex and physical inactivity.	care, and problems avoidance.
25.	Hendriks et al.	2012	To evaluate HTN prevalence and factors that influence BP in four SSA populations, including urban Namibia and Tanzania as well as rural Nigeria and Kenya.	By randomly assigning geographic regions, stratified random samples were created.	Prevalence of HTN	19.3% of rural Nigerians, 21.4% of rural Kenyans, 23.7% of urban Tanzanians, and 38.0% of urban Namibians had age-standardized prevalences of HTN. According to those with HTN, grade 2 or grade 3 HTN (180/110 mmHg) made up between 29.2% (Namibia) and 43.3% of all cases (Nigeria). Between 2.6% in Kenya and 17.8% in Namibia, HTN was controlled. BMI was an independent pre	HTN was the most often noted CVD risk factor across both urban and rural SSA areas, and it will continue to add to the region's rising CVD burden. Alarmingly poor levels of HTN control. In order to stop the growing CVD pandemic, the health care systems in SSA must be strengthened.

						dictor of BP level in all research groups, where the prevalence of obesity (defined as a BMI 30) ranged from 6.1% in Nigeria to 17.4% in Tanzania.	
26.	Ibekwe et al.	2015	In order to assess if there is any correlation between these risk factors and socio-demographic characteristics, it was necessary to quantify HTN prevalence and its modifiable factors in a remote neighbourhood (Oghara, Delta State, Nigeria).	For the study, a total of 272 respondents were chosen using cluster sampling. Data were gathered using a questionnaire that was administered by the interviewer.	Prevalence of HTN and modifiable risk factors	HTN prevalence was 21.0%, although the prevalence of HTN risk factors that may be changed, including as obesity, smoking, and alcohol use, was 15.8%, 43.4%, and 18.8%, respectively. Both HTN and alcohol use (p 0.001) and HTN and smoking (p 0.001) showed a statistically significant correlation. (p < 0.001). Smoking and socio-demographic factors were highly correlated.	The study discovered a significant prevalence of modifiable risk factors for HTN. This emphasises how important it is to take preventative steps and encourage lifestyle modifications in order to stop the growing NCD and HTN outbreak.
27.	Idris et al.	2020	To ascertain NCD prevalence and predisposing factors among inhabitants of Lagos, Nigeria's Ijegun-Isheri	215 participants who were sequentially recruited as part of a population preventive health programme participated in a population-based cross-sectional survey.	Prevalence of NCDs and associated risk factors	Diabetes was 4.6% more common than HTN (35.3%), and dyslipidemia was 47.1% more common. Smoking prevalence was 41.3%, alcohol intake was 72.5%, and physical activity was 52.9% among NCD risk factors. Age 60	Diabetes, dyslipidemia, and HTN are all very common, as are the risk factors that go along with them. This underlines the demand for more research and policy implementation guid elines to address the burden of NCDs in

			Osun neighbour hood.			years and dyslipidaemia were the independently significant predictors of HTN. Diabetes was independently predicted by age 60 years. Smoking, being employed, being physically active, and being older than 60 were all independent predictors of dyslipidemia.	Nigeria's metropolitan neighbourhoods. These methods must be neighborhood-specific, addressing the major risk variables in order of importance.
28.	Ige et al.	2013	To outline the prevalence of a few NCDs and the risk behaviours that go along with them in a Nigerian university community.	In order to choose the respondents, a two-stage sampling method was used. Four departments were chosen at random from a list of all departments in each of the 15 University faculties in the first step, which entailed the basic random sample of departments. In the second step, a systematic sample of the listed employees from each chosen department was taken; ten employees were therefore chosen out of the 60 departments chosen in stage one. Structured self-	Prevalence of NCDs	While 67.4% of people reported at least one risk behaviour (unhealthy eating 96%, sedentary lifestyle 27.4%, excessive alcohol use 5.1%, and smoking 1.9%), 27.6% had previously received a diagnosis for at least one NCD (HTN 21.5%, diabetes 11%, cancer 2.9%). No discernible difference by sex or age was seen in the 29.9% of people who displayed several risky behaviours. The incidence of NCDs was considerably greater in those above the age of 40, notably for HTN. Only 7% of people thought they were at risk for NCDs. The perception of risk for one or more NCDs was shared	It has been shown that there is a large NCD burden and unhealthy practices despite low self-perceived risk, which necessitates quick action..

				administered questionnaires were used to gather data.		by those who had parents with NCDs and those who had NCDs themselves, but not by those who engaged in multiple risk behaviours.	
29.	Mbah et al.	2012	To identify the incidence and risk factors for HTN among middle-aged people in Ahiazu Mbaise Local Government Area, Imo State, Nigeria.	Males and females (40–60 years old) were chosen at random from the two villages to serve as the participants.	Prevalence and risk factors of HTN	A larger percentage of female participants (20.0%) than male subjects (12.5%) were reported to have HTN (32.5%). 25.0% of the participants were either overweight or obese. Less than half of the respondents (30.0%) reported drinking alcohol frequently, while 23.0% reported eating salty foods frequently. These were all identified as potential causes of high blood pressure.	Since HTN care requires preventative measures, the general population should be made aware of HTN predictors, notably a high BMI and unhealthy food and lifestyle choices.
30.	Murthy et al.	2013	To analyse HTN prevalence and associated risk variables, including ethnicity, in a sample of Nigerian adults who were chosen for a survey on visual impairment from	A nationally representative sample of 13591 participants aged 40 years was obtained using a multi-stage, stratified, cluster random sample with probability proportional to size techniques. 13504 (99.4%) of them had a blood pressure reading.	Prevalence of HTN and associated risk factors.	There were 44.9% of people who had HTN. Age, gender, living in an urban area, and BMI all increased independently of one another (p 0.001). The ethnic group with the highest HTN prevalence was the Kanuri.	The high frequency of HTN in Nigeria is alarming and shows that the effects of connected poor health, along with the associated monetary and costs to society and families and the nation of Nigeria, are unavoidable.

			across the country.				
31.	Odili et al.	2008	To assess how doctors adhere to the JNC VII, WHO/ISH, and ESH guidelines and their role in the prevention and control of HTN.	Cross-sectional study	Prevalence, Treatment and Control of HTN	The grade 2 group had the greatest prevalence of HTN (36%). Men were less affected (40%) than women (60%) were. Diabetes mellitus was the most prevalent co-morbid condition (18%). The highest rates of co-morbidity were found in Grades 2 (34%) and 3 (34%). A two-drug combination was being taken by 49% of the participants, whereas 14% were receiving monotherapy. The anti-hypertensive medication most frequently administered (31%) was a calcium channel blocker, followed by a diuretic (30%). Diuretics were the most popular medication combination (74%). In HTN, there was no proof of body weight control.	The doctors in this facility fairly followed the instructions, however it doesn't seem like they suggested lifestyle changes to their hypertension patients.
32.	Ofuya	2007	To ascertain the prevalence of HTN among adults in Nigeria's Niger Delta.	While the female participants were chosen from two markets in the hamlet where the institution was located, the male research group was	Prevalence, Awareness, Treatment and Control of HTN	HTN was more common in men than in women (16% in men and 12% in women). Male BMI averaged 22.7 kg/m2, whereas female BMI averaged 23.8 kg/m2.	There is a need for HTN control and prevention measures. Lifestyle changes and risk factors, such as a high BMI, should be promoted.

				composed of commercial motorcycle riders who frequented the campus area.			
33.	Ogah et al.	2012	To ascertain the prevalence and causes of high blood pressure in the South-East Nigerian state of Abia.	The research subjects were chosen ad hoc from one rural and one urban local government region, one senatorial zone, and each of the three senatorial zones (LGA).	Prevalence and determinants of HTN	The BMI of women was substantially greater than that of males. Similar to how the waist circumference was greater in women, the waist-to-hip ratio was only noticeably higher in urban women than in rural women. Systolic HTN affected 31% of participants overall (33.5% of males and 30.5% of women). In the city, there was a statistically different sex gap. Conversely, diastolic HTN was present in 22.5% of the population (25.4% of women and 23.4% of males). The best predictors of BP were age and indicators of obesity.	Both rural and urban environments in the research had a high frequency of HTN. Age, sex, indicators of obesity, and pulse rate were the main drivers of blood pressure in the subjects.
34.	Oghagbon et al.	2007	To ascertain the prevalence of HTN and related factors among paid Ilorin, Kwara State,	A screening was conducted for the identification of HTN among the staff members in collaboration with the health services division of a soft drink manufacturing	Prevalence of HTN and associated variables	HTN affected 27.1% of the population, with men having a frequency of 28.4% and females of 22.9%. Females had considerably greater mean SBP and DBP. Age and BMI both enhanced the prevalence of HTN.	In Ilorin, Nigeria, the prevalence of HTN is high, with males being more likely to have the disease. In female employees, the BP rise is more pronounced. In order to reduce the morbidities that are connected with

			Nigerian employees.	firm and the Federal Secretariat Complex in Ilorin, Nigeria. These staff members received thorough briefings on the main points of the show and the necessity of fasting on the day they were to be aired.		Age and SBP, DBP, and BMI were linked. 13.2% of the population was obese, with males making up 5.3% and females 7.8%. Both sexes had a 1.5% prevalence of diabetes mellitus, which was similar.	obesity, which is on the rise in Nigerian society, early intervention is necessary.
35.	Oguoma et al.	2015	To determine CVD prevalence and predictive factors as well as how availability of CVD risk screening varies by poverty level and educational attainment and how this affects the diagnosis of the condition in rural and urban Nigerian adults.	Using a two-stage cluster sampling approach, researchers examined a culturally ethnic group of people who resided in both rural and urban areas. All 18-year-old pupils from certain secondary schools were sampled for each cluster. Other participants in each cluster were signed up through town halls, primary health care facilities, and school grounds.	Prevalence of CVD risk factors	Prediabetes was present in 4.9% of the population, diabetes in 5.4%, HTN in 35.7%, low HDL in 17.8%, hypertriglyceridemia in 23.2%, hypercholesterolemia in 38.1%, and central obesity in 52.2% of the population. Other CVD risk variables did not demonstrate statistically significant difference across income levels, with the exception of total cholesterol and HDL. It was statistically significant that participants with "university and postgraduate degrees" had more exposure to BP and sugar levels monitoring than those from other educational backgrounds.	According to this study, a sizable percentage of adult Nigerian migrants from the rural and urban areas carry modifiable CVD risk factors. While the prevalence of CVD risk factors was not impacted by economic level, it did alter access to CVD risk screening. At all societal levels, there is a need for access to risk factor diagnosis.
36.	Okafor et al.	2014	To estimate the	Simple random sampling was used to choose	Prevalence, Awareness, Treatment	With a strong female gender preponderance, the	Among these apparently healthy adult citizens,

			prevalence of obesity and its connection to blood pressure among urban adults living in the Enugu metropolitan.	four areas of the city, and then consenting people between the ages of 18 and 70 were sequentially recruited.	and Control of HTN	individuals had high obesity prevalence (21.2%). Age-related burdens rose, with the middle-aged group being most affected. The likelihood of acquiring obese rose as age approached 40. Positive association, greater BMI among hypertensive people, and significant burden of raised BP among obese subjects all point to a connection between BP and BMI.	obesity was of a significant size. Increased BP is related to obesity.
37.	Oladapo et al.	2005	To evaluate and describe the prevalence of various cardiovascular-related risk factors in a rural Yoruba community in South-West Nigeria's sub-Saharan adult population.	A list created by field enumerators contained a systematic random sampling of houses. Adults who were eligible were chosen as responders on a consistent basis. Per home, no more than three respondents were chosen. After receiving training in fundamental interviewing techniques and accepted procedures for taking physical measures, community health extension workers (CHEW)	Prevalence of cardiometabolic risk factors	With blood pressure over 140/90 mmHg, 20.8% of the responders had hypertension. 42.3% of the men and 36.8% of the women had blood pressure below 130/85 mmHg; 2.5% had diabetes; 1.9% had hypertriglycerideaemia; 43.1% had low HDL-C; 3.2% were physically inactive; and 1.7% smoked cigarettes. A total of 12.9% of the participants had at least one CVD risk factor.	The findings of this study clearly imply that cardiometabolic risk factors are prevalent in this rural community and that the epidemiological shift does not only affect urban residents. This is a call to action for the treatment of CVD as well as other NCDs in the organization of health services.

				gathered the study's data. The WHO STEPS survey's instruments were used and modified for the local conditions.			
38.	Olisa & Oyelola	2009	To examine utilisation of herbal medication among hypertensive patients.	The study's recruitment process employed simple random sampling. The clinic record office was contacted to recruit every other patient who dropped down their card in order for the files to be handed out.	Use of herbal medicine for HTN control	Age was linked to more frequent usage of herbal remedies (P 0.05). 47.5% of respondents reported co-administering herbal medications with antihypertensive drugs, of which 33.33% utilised herbs having antihypertensive action. The majority of responders (71.15%) used herbal medications secretly from their doctors. 21.04% of respondents reported co-administration of herbal medications and allopathic drugs to have had clinically obvious adverse effects. The reasons stated for stopping the herbal medications were side effects noticed (3.79%), improvements in clinical circumstances (3.03%), reported ineffectuality of the herbal treatment (1.52%), and directions from the	Patients with hypertension frequently co-administered herbal medications together with allopathic medications, thus healthcare providers need to be watchful and ask patients about their use of herbal medications when gathering their medical history.

						health practitioner (21.15%).	
39.	Omoroghiuwa et al.	2008	In order to compare the risk variables between the younger employees and senior employees in the setting, it was necessary to rank the risk factors for HTN in a university setting in Ekpoma, Edo State, Nigeria.	All of the university's faculties and service divisions were used to pick 1,600 academic and non-academic staff members at random, who might be senior or junior personnel.	Risk factors of HTN	The total crude prevalence was 33%, whereas junior employees had a prevalence of 23.8% and senior staff had a prevalence of 38.93%. In this study, the male senior staff had a substantially higher mean diastolic HTN of 158.3 4.5. In this study, kolanut was the main risk factor, and its effects were more noticeable in the senior staff. Extra salt, alcohol, cigarette smoking, and sex were additional risk factors.	The study demonstrated the significance of ranking HTN predictors so that adequate awareness campaigns may be planned to reduce those risks and, as a consequence, marginalise the catastrophic effects of HTN and its complications.
40.	Omuemu et al.	2004	To evaluate the degree of knowledge about high blood pressure, therapy, and control in a rural population in Nigeria's Edo State.	Participants were chosen through cluster sampling, and a researcher-administered questionnaire was utilised to gather the data.	Awareness, Treatment and Control of HTN	HTN prevalence was 20.2%. 18.5% of the hypertensives knew they had high blood pressure. Females had higher awareness, which rose with age and fell with increasing educational attainment. Of those who were aware of their issue, 77.3% were receiving treatment, and of those, 29.4% had their blood pressure under control.	According to the study, this rural population has poor levels of knowledge of high blood pressure and its management. Therefore, the need for consistent, population-based HTN screening programs is important.
41.	Ordinioha	2013	To determine the	According to the study, this rural population has	Prevalence, Awareness, Treatment	The study found that this rural community had low	Due in large part to their improved health-seeking

			prevalence of HTN and its modifiable risk factors among the lecturers at the University of Port Harcourt Medical School.	poor levels of knowledge of high blood pressure and its management. Therefore, the need for consistent, population-based HTN screening programs is important.	and Control of HTN	levels of awareness of high blood pressure status and control. Routine population-based HTN screening programmes are thus urgently needed.	behaviour and active lifestyles, medical school instructors had a lower frequency of HTN than the general population.
42.	Ordiniocha & Brisibe	2013	To find out how common HTN is among the traditional leaders of a community in Rivers State, Nigeria, and to identify its modifiable risk factors.	The study found that this rural population knows little about blood pressure problems and how to treat them. Therefore, it is crucial to have reliable, population-based HTN screening programmes.	Prevalence of HTN and its modifiable risk factors	The mean systolic and diastolic blood pressures in the study population were 149 and 98 millimetres of mercury, respectively. The HTN prevalence was 68.9%. The majority (63.01%) of the chiefs who had HTN were conscious of their condition and were taking medication to treat it (50.68%). There were no underweight chiefs, and the majority were either overweight (51.89%) or obese (26.42%). Almost all of the chiefs (92.45%) used alcohol frequently, and 24.53% smoke cigarettes right now.	Compared to the general population, traditional leaders had a greater frequency of HTN. Their advanced age and acculturation are likely to blame for this.
43.	Oyeyemi & Adeyemi	2013	To investigate the association between risk factors	Workers were sourced from places of employment with various levels of	Prevalence, Awareness, Treatment and Control of HTN	Women were more likely to be obese, to report having a diagnosis of a component of the metabolic	Adults in Nigeria who were employed had low levels of physical activity, which was associated with

			for CVD and physically active behaviours in an adult working population in Maiduguri, Nigeria.	occupational engagement. In Maiduguri, North-East Nigeria, six workplaces totaling more than 100 people were purposefully hired from institutions supported by the federal or state governments.		syndrome, and to be less physically active than males (p 0.05). When compared to those who described their job as moderately or highly active, individuals with sedentary lifestyles were likely to collect less minutes of MVPA (p 0.001). BMI, heart rate, waist circumference, and blood pressure were all negatively correlated with the health-improving moderate-to-vigorous physical activity (MVPA) (p 0.05).	harmful CVD risk factors. In Maiduguri, Nigeria, encouraging physical activity that improves health may be crucial for the prevention and management of CVD among the employed population.
44.	Ugwuja et al.	2015	To ascertain the prevalence and causes of HTN in the rural community of Igbeagu, in South Eastern Nigeria.	No clear sampling strategy was provided.	Prevalence, Awareness, Treatment and Control of HTN	Incidence of HTN was 23.2%. HTN was correlated with age, red meat intake, BMI, and the proportion of children in the family. Only age and BMI were identified as independent risk variables for HTN by regression analysis.	Although the frequency of HTN and its risk factors were consistent with other studies conducted in Nigeria, it is still unclear how the frequency of children in a household and HTN are related. To reduce the high HTN prevalence in this population, efforts are required.
45.	Ulasi et al.	2010	To quantify the prevalence of the cardiometabolic syndrome (CMS) in relation to	To ensure proportionate representation, 2/3 of respondents were chosen from the semi-urban region, while the last third was chosen	Prevalence, Awareness, Treatment and Control of HTN	In the HTN population, the prevalence of CMS increased to 34.7% and 24.7%, respectively, from the general prevalence of 18% in the semi-urban community and	The high frequency of CMS, particularly in the population with HTN, in semi-urban areas emphasises the double burden of illness in emerging nations. The lesson is that non-

			HTN in semi-rural and rural populations in South-East Nigeria.	from the rural community.		10% in the rural community. Hyperglycemia, abdominal obesity, and hypertriglyceridaemia all had higher prevalence rates in the general population in both communities combined than in the hypertensive groups, which were respectively 21.2%, 55.0%, and 31.3%. Every other co-morbidity, with the exception of low HDL cholesterol, was greater in the hypertensive group than it was in the general population.	communicable illnesses should not be overlooked while diseases are being dealt with in these nations.
46.	Ulasi et al.	2011	To find out how common HTN is in a market neighbourhood in Enugu, Nigeria.	No clear sampling strategy was provided.	Prevalence of HTN	42% of the population who underwent screening for hypertension was used to estimate prevalence. Of this group, 70.6% were unaware of their hypertension prior to the test. More males than females had hypertension. HTN prevalence rose with age starting at 5.4% in the age range.	This study used a random sample of market participants. HTN was diagnosed on the average of three blood pressure readings taken at one time, which may have had an impact on the prevalence of HTN in this research as a whole.
47.	Wahab et al.	2006	To ascertain the prevalence of obesity and overweight in a group	Until the appropriate sample size was reached, subjects were successively recruited using the convenience	Prevalence of HTN	53.3% and 21.0% of people were overweight or obese, with females having a substantially greater prevalence than men (overweight:	In northern Nigeria, obesity is quite prevalent, and women are disproportionately afflicted. Female sex, elevated cholesterol, and

			of urban Nigerians, as well as the variables that are separately linked with obesity.	sampling approach.		62.0% vs. 41.9%, p 0.001; obesity: 29.8% vs. 9.3%, p 0.001). In univariate analysis, women and those with HTN, hypercholesterolemia, and hyperuricemia had increased probabilities of being obese. However, female sex, hypercholesterolemia, and hyperuricaemia were independently related with obesity in multivariate analyses.	elevated uric acid levels are all independently linked to the high occurrence. To lessen this weight and avoid other NCDs, public health education is critically needed.
48.	Wokoma et al.	2011	To ascertain the prevalence and trend of BP in a rural area of Rivers State, Nigeria.	The individuals for this survey were chosen at random from a simple sample of all subjects who had previously consented to take part in the research.	Prevalence, Awareness, Treatment and Control of HTN	32.2% of people worldwide had systolic HTN. Diastolic pressure revealed pre-HTN in 49 (32.2%) of the participants, HTN grade 1 in 21(13.8%), and HTN grade 2 in 15 (9.8%), for a diastolic HTN prevalence rate of 23.6%. The overall frequency of HTN among the participants was 27.9%. In 26.9% of the individuals, significant proteinuria was found. Blood sugar and BMI were rising indicators of high diastolic BP.	It was not a community-wide BP survey that included every residence. Only individuals who responded to the community mobilisation for health outreach were examined. This restricts the number of the population under investigation and could have resulted in some selection bias.

Appendix 3: Quality Appraisal

S/N	Author	Sampling Design	Statistical Analysis	Case Ascertainment	Quality Score	Quality Rating
1.	Adebayo et al., 2013	1	1	1	3	Moderate
2.	Adedoyin et al., 2008	1	1	2	4	High
3.	Adedoyin et al., 2012	1	1	1	3	Moderate
4.	Adika et al., 2011	1	1	2	4	High
5.	Agaba et al., 2014	1	1	2	4	High
6.	Akinbodewa et al., 2014	1	1	2	4	High
7.	Akpa et al., 2008	1	1	2	4	High
8.	Akpan et al., 2015	1	1	1	3	Moderate
9.	Amira et al., 2012	1	1	1	3	Moderate
10.	Amole et al., 2008	1	1	1	3	Moderate
11.	Andy et al., 2012	1	1	1	3	Moderate
12.	Asekun-Olarinmoye et al., 2013	1	1	1	3	Moderate
13.	Awosan et al., 2013	1	1	1	4	High
14.	Bello-Ovosi et al., 2017	1	1	2	4	High
15.	Chukwuonye et al., 2013	1	1	2	4	High
16.	Egbi et al., 2013	1	1	1	3	Moderate

17.	Ejim et al., 2006	1	1	2	4	High
18.	Ekanem et al., 2012	1	1	2	4	High
19.	Ekpe & Elemi, 2016	1	1	1	3	Moderate
20.	Ekwunife et al., 2009	1	1	2	4	High
21.	Emerole et al., 2007	1	1	1	3	Moderate
22.	Erhun et al., 2003	1	1	1	3	Moderate
23.	Ezejimofor et al., 2014	1	1	1	3	Moderate
24.	Funke et al., 2013	1	1	2	4	High
25.	Hendriks et al., 2012	1	1	2	4	High
26.	Ibekwe et al., 2015	1	1	1	3	Moderate
27.	Idris et al., 2020	1	1	2	4	High
28.	Ige et al., 2013	1	1	2	4	High
29.	Mbah et al., 2012	1	1	1	3	Moderate
30.	Murthy et al., 2013	1	1	2	4	High
31.	Odili et al., 2008	1	1	2	4	High
32.	Ofuya, 2007	1	1	1	3	Moderate
33.	Ogah et al., 2012	1	1	2	4	High
34.	Oghagbon et al., 2007	1	1	1	3	Moderate

35.	Oguoma et al., 2015	1	1	2	4	High
36.	Okafor et al., 2014	1	1	1	3	Moderate
37.	Oladapo et al., 2005	1	1	2	4	High
38.	Olisa & Oyelola, 2009	1	1	2	4	High
39.	Omorogiuwa et al., 2008	1	1	1	3	Moderate
40.	Omuemu et al., 2004	1	1	1	3	Moderate
41.	Ordinioha, 2013	1	1	1	3	Moderate
42.	Ordinioha & Brisibe, 2013	1	1	1	3	Moderate
43.	Oyeyemi & Adeyemi, 2013	1	1	1	3	Moderate
44.	Ugwuja et al., 2015	1	1	1	3	Moderate
45.	Ulasi et al., 2010	1	1	1	3	Moderate
46.	Ulasi et al., 2011	1	1	1	3	Moderate
47.	Wahab et al., 2006	1	1	1	3	Moderate
48.	Wokoma et al., 2011	1	1	1	3	Moderate