

Original Research Article

Community Perceptions of Hypertension Treatment in Vrymans Erven, Berbice, Guyana

Abstract

This study explores the integration of traditional and pharmaceutical remedies in managing hypertension in the rural Berbice, community (Vrymans Erven), New Amsterdam, Guyana. It assesses the efficacy, cultural significance, and challenges associated with these remedies to enhance accessibility and patient compliance. Utilising qualitative research methods, this paper investigates hypertensive individuals' perceptions, beliefs, and personal experiences regarding their use of medicinal plants alongside pharmaceutical interventions.

The methodology involved semi-structured interviews with residents of New Amsterdam, Berbice, focusing on their preferences for managing hypertension using either pharmaceutical drugs or traditional remedies. Purposive and snowball sampling techniques were employed to gather a diverse range of perspectives, ensuring a rich, qualitative dataset. Data saturation was reached with ten participants whose insights were recorded, transcribed, and thematically analysed.

Results highlighted a dual reliance on both pharmaceutical medications and traditional remedies. Pharmaceuticals were trusted for their efficacy and quick action, while traditional remedies were favoured for their perceived naturalness and safety. Many participants employed an integrated approach to treatment, combining both methods depending on availability, perceived effectiveness, and cultural beliefs. The study also revealed significant themes of proactive health monitoring and the importance of education in managing hypertension effectively. The recurring themes with their respective frequencies are as follows: Preference for Pharmaceutical Remedies (8 mentions), Use of Traditional Remedies (7 mentions), Integrated Approach to Treatment (5 mentions), Health Monitoring and Self-Care (4 mentions), Accessibility and Availability (3 mentions), and Education and Awareness (3 mentions).

The findings suggest a complex interplay between cultural heritage and modern medical practices in hypertension management in rural settings. They underscore the need for healthcare systems to consider these diverse perspectives to improve treatment accessibility and adherence. This study contributes to a deeper understanding of the multifaceted approaches to hypertension management in resource-constrained settings and supports the development of culturally sensitive healthcare policies.

Keywords: Herbal, Hypertension, Remedies, Pharmaceutical

Introduction

Hypertension, or high blood pressure, is a pervasive health challenge identified by the World Health Organization (WHO) as blood pressure readings exceeding 140/90 mmHg. Globally, an estimated 1.28 billion adults between the ages of 30 and 79 are afflicted by this condition, predominantly in low- and middle-income countries (LMICs) where healthcare infrastructure and awareness are often insufficient (World Health Organization, 2023). Astonishingly, nearly half of these individuals remain unaware of their hypertensive status, underscoring a critical gap in detection and education. Furthermore, only a fraction receives adequate medical management, exacerbating the risk of premature mortality linked to cardiovascular complications.

The severity of uncontrolled hypertension necessitates a comprehensive approach to mitigate its impact not only on public health but also on economic stability across nations. International health agendas aim for a significant reduction in hypertension prevalence by 2030, yet the path is fraught with challenges, including the enhancement of healthcare delivery and the scalability of treatment options in resource-strapped settings (World Health Organization, 2023).

In many rural and underserved areas, traditional remedies derived from indigenous knowledge remain a cornerstone of everyday health practices. Often passed down through generations, these remedies include herbal teas, dietary supplements, and physical therapies reflecting a deep-seated cultural affinity towards natural health solutions. Research indicates that up to 80% of individuals in some regions utilise herbal remedies to manage their hypertension, either independently or alongside pharmacological treatments (Azizah et al., 2021; Tabassum and Ahmad, 2011). These treatments are favoured due to their perceived compatibility with the human body and fewer side effects compared to synthetic drugs.

Conversely, pharmaceutical interventions are lauded for their standardisation and clinically proven efficacy. Modern medicine provides a repertoire of antihypertensive drugs rigorously tested for safety and effectiveness, forming the backbone of hypertension management in clinical settings (WHO, 2023). Nevertheless, the reach of such treatments is often limited in LMICs due to economic barriers, logistical challenges, and a lack of sustained healthcare engagement.

The dual use of medicinal plants and pharmacological agents presents a unique intersection in hypertension management, particularly within diverse cultural contexts. Historical accounts and contemporary studies reveal a rich tapestry of medicinal plant use across various cultures, attesting to their enduring role in health and wellness (Ekor, 2014). Despite the scepticism sometimes cast by the biomedical community due to the lack of standardised testing protocols, many regions have documented substantial patient recovery rates using plant-based remedies, affirming their place in holistic health strategies (WHO, 2015).

Moreover, the global epidemiology of hypertension highlights an escalating trend fueled by lifestyle changes and urbanisation, with projections suggesting a rise in prevalence from 26% to 29% by 2025 (De Wet, Ramulondi, and Ngcobo, 2016). This scenario places immense pressure on existing health systems to adapt and innovate in their approach to disease management.

This research paper explores the integration of traditional and pharmaceutical remedies for hypertension management, particularly focusing on their use in low- and middle-income countries (LMICs). The study aims to assess the efficacy, cultural significance, and the challenges associated with these remedies to enhance accessibility and patient compliance. Using qualitative research methods, the paper investigates the perspectives, beliefs, and personal experiences of hypertensive individuals in rural Berbice, Guyana, regarding their use of medicinal plants to manage their condition.

The study delves into various aspects of traditional remedies, including the origins, preparation, dosing, administration, and perceived effectiveness. This comprehensive approach seeks to provide a detailed understanding of how these remedies are integrated into daily health practices and their role in the broader spectrum of hypertension management. The insights gained aim to contribute to a foundational repository of knowledge, which will be crucial in guiding future research initiatives and developing health interventions that respect cultural preferences while leveraging evidence-based practices.

This paper aims to explore the integration of traditional and pharmaceutical remedies for hypertension, examining their efficacy, cultural significance, and the challenges faced in enhancing accessibility and patient compliance in LMICs. Through a thematic analysis of current practices, this study seeks to provide insights into optimising hypertension management that respects cultural preferences while embracing evidence-based medical practices. The ultimate

goal is to contribute to global efforts in reducing the burden of this silent epidemic, paving the way for more sustainable health outcomes in vulnerable populations.

Methods

Study Design

This study employed a qualitative approach to understand the preferences of New Amsterdam residents for pharmaceutical versus traditional remedies in managing hypertension. Unlike quantitative studies that focus on identifying risk factors, this qualitative study delved into the cultural and personal preferences influencing treatment choices. Qualitative research, known for its interpretative, inductive nature, allowed for an in-depth exploration of participants' perspectives and experiences, making it ideal for examining the nuanced relationship between culture and treatment preferences (Ritchie et al., 2014).

Sampling Approach

Participants were selected using a mixture of purposive and snowball sampling, targeting individuals with rich insights into hypertension management (Naderifar et al., 2017). This non-probability method ensured the inclusion of diverse voices from the community, including men and women from various sectors, such as local churches, the general community, and academic professionals from the University of Guyana residing in rural areas. Snowball sampling was employed, where initial subjects recommended further candidates, thus enriching the research with varied perspectives (Biernacki and Waldorf, 1981).

Data Collection and Sample Size

Data collection was conducted through semi-structured interviews aimed at achieving saturation with an estimated ten participants. Each interview was planned to last between 15 to 30 minutes, conducted from November 20th to December 8th, 2023, following a pilot test phase from November 6th to 17th. Written consent was secured during interviews, emphasising voluntary participation and the option to withdraw at any time. The interviews were recorded and transcribed verbatim, ensuring data accuracy by comparing transcripts against audio recordings. A reflexive diary was maintained to document non-verbal cues and reflections after each interview.

Inclusion and Exclusion Criteria

Inclusion Criteria:

1. Participants were diagnosed with hypertension by a healthcare professional.
2. Must reside in Vrymans Erven, New Amsterdam, Berbice.

Exclusion Criteria:

1. Individuals diagnosed with secondary hypertension.
2. Those not using any form of remedy to manage hypertension.

Instrumentation and Data Collection

The research utilised an interview guide containing open-ended questions developed from the literature review. These questions covered a broad range of topics, including types of remedies used, their sources, access, preparation, administration, personal preferences, effectiveness, and underlying reasons for their use. This guide was pilot-tested with two volunteers who met the inclusion criteria to refine questions and adjust the interviewing technique. The pilot interviews were integrated into the main study since the guide remained largely consistent (Van Teijlingen and Hundley, 2001).

Data Sources

The study engaged participants from various communities within New Amsterdam, Berbice, such as Vrymans Erven and the Ebenezer Lutheran Church, as well as academic professionals from the University of Guyana. This region, rich in cultural diversity and located away from the capital, provided a unique setting for exploring hypertension management practices among its 17,329 residents.

This methodological approach ensured a comprehensive understanding of the local context and cultural dynamics influencing hypertension management, thereby contributing valuable insights into the integration of traditional and pharmaceutical remedies.

Results

Table 1: Outline of Scientific Rigors Applied to the Study

Criteria	Strategies
Accountability	Researchers maintain clear and detailed documentation of the research process, including data collection methods, data analysis, and decision-making processes. Regular meetings were held to review the study's progress and to ensure adherence to ethical standards and research protocols.
Dependability	An audit trail was established, where all decisions and changes in the research process were logged and justified. This includes recording the rationale for methodological choices, changes based on initial findings, and

	responses to unforeseen challenges.
Confirmability	Data triangulation was employed to corroborate findings across multiple sources and types of data, such as quantitative data from blood pressure measurements and qualitative data from patient interviews. Peer debriefing sessions were conducted to scrutinise the data analysis process.
Transferability	Detailed descriptions of the research context, participant characteristics, and study setting are provided, allowing others to evaluate the findings' applicability to other contexts. Each interview was reviewed as a case study to enhance understanding of the results in specific environments.
Reflexivity	Researchers engaged in self-reflection to identify and mitigate potential biases stemming from their personal backgrounds, values, and experiences. The research team documents and discusses regular reflections to ensure that interpretations and conclusions are critically assessed.

A diverse range of experiences and preferences among the interview participants regarding hypertension management are displayed in Table 2. The recurring themes suggest that while there is a strong reliance on pharmaceutical remedies due to their perceived effectiveness and reliability, there is also significant use of and belief in the benefits of traditional remedies, particularly as complementary treatments. The frequency of themes such as integrated approaches and health monitoring underscores the proactive nature of some patients in managing their condition, indicating a need for healthcare providers to consider these factors when developing and discussing treatment plans with patients.

Table 2. Themes and Subthemes Derived after the Final Coding of the Data

Major Theme	Sub-Themes	Description of Sub-Themes	Frequency
Preference for Pharmaceutical Remedies	- Reliance on prescribed medication for effective management	Participants express trust and reliance on medications prescribed by healthcare professionals for managing hypertension.	8

	- Trust in medical advice and healthcare systems	Participants show a strong trust in the advice and treatment plans provided by medical professionals.	
	- Perceived immediacy and efficacy of pharmaceuticals	Medications are valued for their quick and effective control of hypertension symptoms.	
Use of Traditional Remedies	- Supplemental use of herbal or natural remedies	Herbal remedies are used in addition to or in place of pharmaceutical treatments, often based on cultural or personal preferences.	7
	- Historical or cultural influence on treatment choices	Choices in remedies are influenced by familial practices and cultural heritage, reflecting a deeper tradition of natural medicine.	
	- Perceived naturalness and safety of traditional remedies	Natural remedies are perceived as safer and more aligned with nature, contributing to their preferred use.	
Integrated Approach to Treatment	- Combining pharmaceutical and traditional remedies	Participants often use a combination of both medical prescriptions and natural treatments to manage their hypertension.	5
	- Adjusting treatments based on symptoms and effectiveness	Adjustments in treatment methods are made based on personal experiences of effectiveness and symptom management.	
Health Monitoring and Self-Care	- Proactive health monitoring (e.g., blood pressure self-monitoring)	Regular monitoring of blood pressure and other health indicators is common, allowing participants to manage their condition actively.	4
	- Importance of lifestyle factors in managing hypertension	Lifestyle adjustments such as diet, exercise, and stress management are integral to hypertension management.	
Accessibility and Availability	- Importance of having medications and remedies readily available	Easy access to both pharmaceuticals and herbal remedies is essential for ongoing management of hypertension.	3
	- Economic considerations related to treatment affordability	Cost of treatments plays a role in treatment choices, with considerations of both affordability and value.	

Education and Awareness	- Influence of health education on treatment choices	Educational background and access to health information influence the selection and use of hypertension treatments.	3
	- Seeking information from multiple sources	Participants often seek information from various sources, including doctors, the internet, and community knowledge.	
Experiences with Side Effects	- Concerns about and management of side effects from medications	Side effects from medications lead to adjustments in treatment plans or medication types.	2
	- Adjusting medication due to adverse effects	Participants change their medication regimen in response to adverse effects, seeking alternatives that minimise discomfort.	
Use and Preparation of Traditional Remedies	- Traditional or herbal remedies and their preparation	Participants outlined traditional or herbal remedies, their preparation and administration	4

Table 3: Demographic Characteristics

Description		N
Gender	Male	1
	Female	9
Level of Education	Tertiary	3
	Secondary	4
	Primary	3
Ethnicity	Afro-Guyanese	5
	Amerindian/ Indigenous	1
	Mix	3
	Indo-Guyanese	1
Duration of hypertension	5-10 years	4
	More than 10 years	6

Preference for Pharmaceutical Remedies

Participants express trust and reliance on medications prescribed by healthcare professionals for managing hypertension. They show a strong trust in the advice and treatment plans provided by

medical professionals. Pharmaceutical medications are valued for their quick and effective control of hypertension symptoms.

P6: *"I use medication. I don't want it to just fly up just like that if I don't use the tablet. So I prefer to use the medication, I feel safe that way."*

P8: *"I strictly use the pharmaceuticals, the medication."*

P10: *"It's very good because it gives me an immediate reaction... It's very helpful because sometimes, you know, When you take the medication, you see a result in a couple minutes time."*

P3: *"I am one who was never really fond of medicines. Growing up in a Guyanese society, instead of taking a tablet, your mother might say, drink this, boil this bush or something, you understand?"*

P5: *"Well, they say they have a lot of side effects. You know, I would only drink it if it calls for it, if it's extreme need, but I try to keep away from that."*

Use of Traditional Remedies

Herbal remedies are used in addition to or in place of pharmaceutical treatments, often based on cultural or personal preferences. Choices in remedies are influenced by familial practices and cultural heritage, reflecting a deeper tradition of natural medicine. Natural remedies are perceived as safer and more aligned with nature, contributing to their preferred use.

P7: *"You must use a lot of cucumber. That is very good in itself. I tried two salads that I used to keep and juice, cucumber juice, put in the fridge and drink it."*

P10: *"Well, just that you know, that's available. You know, I rather than going to bed with a headache, also, you know, I take natural remedies. Like garlic also, you know, a crack of garlic also. And if anything, sometimes a little lemon juice, lemon juice, you know, it's not that I prefer it. It's just, you know, the need at the time."*

P5: *"Drink plenty of water. Actually, I used to take the medication every day, but then after I find out about the side effects, I ease it off and pay attention to the diet. And also garlic, you know, use a lot of garlic."*

P3: *"Some people might say karela bush, bitter aloes, sorrel, all these kind of home remedies"*

P4: *"I blend my cucumber, ginger, every morning and drink."*

Integrated Approach to Treatment

Participants often use a combination of both medical prescriptions and natural treatments to manage their hypertension. Adjustments in treatment methods are made based on personal experiences of effectiveness and symptom management.

P5: *"I drink plenty of water... And particularly not cold water. And, fresh air. Avoid sweets."*

P10: *"But, you know, sometimes it's, you know, after drinking the medication, taking the doctor's medication, I still feel a little dizziness in my head and I would like take a feg of garlic, chew a feg of garlic or sometimes I use a little lime juice and that really does help me."*

P3: *"In Guyana, like I said, they always have something for something. Like if you drink karela bitters or whatever, boil lime and salt. Just to give an example. In Guyana, they always had like stuff that you can use for something instead of using something pharmaceutical."*

P4: *"In terms of exercising, using cucumber, I think it works, you know. I think the traditional remedy works."*

P2: *"I think both because sometimes, just before, I know that I had high blood pressure when I feel that I'm not feeling well and when I started to feel sick, not really sick, but my neck used to hurt and I just wanted to sleep all the time, somebody told me I must grate the cucumber. It was an old lady, she told me to grate the cucumber and squeeze the juice out and take it. And I did. And when I finished, like in half an hour or so, I'd feel relieved."*

Health Monitoring and Self-Care

Regular monitoring of blood pressure and other health indicators is common, allowing participants to manage their condition actively. Lifestyle adjustments such as diet, exercise, and stress management are integral to hypertension management.

P6: *"Every time I measure my pressure, pressure normal. I have my own machine."*

P10: *"Yes, we have a blood pressure monitor here. And we test your blood pressure. When you feel the symptoms, you know, you test it and you'll see if it's high or low."*

P3: *"Something that really has a lot to do with your blood pressure is your diet. And the question I, you didn't ask me about my diet, but that also, it has a lot to do with your salt intake, your sodium intake, your potassium intake."*

P7: *"I try to. I use a lot of fruits. I don't like to fry much fry things. Like foods, I try to eat more steam, and, I walk."*

P7: *"Since I found out that I have high pressure. I like to write everything, I have date, month, everything. Was in 2016, that's the first time I realized that I have high pressure. I'm going to measure my high pressure because I have terrible headache. That is what put me to go and measure at the pharmacy. And the pharmacist jump me when he say was 144 over 82."*

Accessibility and Availability

Easy access to both pharmaceuticals and herbal remedies is essential for ongoing management of hypertension. The cost of treatments plays a role in treatment choices, with considerations of both affordability and value.

P4: *"It's easier for me to access to. It's much easier for me to get to. I always have that."*

P8: *"Yes. I make sure I have it at all times."*

P6: *"Buy it over the counter."*

Education and Awareness

Educational background and access to health information influence the selection and use of hypertension treatments. Participants often seek information from various sources, including doctors, the internet, and community knowledge.

P9: *"Well, hypertension, as I learned about it, is a silent killer. They exactly Exact cause of hypertension can be difficult to diagnose."*

P10: *"Well, it's a doctor recommended him, you know, and after we finished the treatment from the doctor, we started to go to the pharmacy and repeat the treatment that we can take it every day."*

P6: *"Basically, when you use too much of sodium... The blood pressure go up, you can have a stroke. And other stuff..."*

P7: *"I know high blood pressure can lead to kidney failure once it's not monitored correctly. It could even lead to death."*

P5: *"It hardens your tissues. Is it tissue or your vein, something man. It can give you enlarged heart, different things."*

Experiences with Side Effects

Side effects from medications lead to adjustments in treatment plans or medication types. Participants change their medication regimen in response to adverse effects, seeking alternatives that minimize discomfort.

P6: *"First when I used to use another pill that used to happen. But I asked the doctor to change it and everything was okay."*

P10: *"Well, I don't have any side effects. Horrible, but I usually get a drug deal, pharmaceutical medicine. Can you repeat the last part? I usually get a dry cough, a dry cough. Yeah. With the tablets."*

These extracts reflect the diversity of opinions and practices among the interviewees concerning the management of hypertension. They reveal a blend of reliance on medical advice and an openness to traditional methods, underlined by personal experiences and accessibility issues.

Use and Preparation of Traditional Remedies

These excerpts highlight the participants' use and preparation of various herbal remedies to manage hypertension, reflecting a blend of traditional knowledge and personal experience in their healthcare practices.

P4: *"I blend my cucumber, ginger, every morning and drink."*

P3: *"Some people might say karela bush, bitter aloes, sorrel, all these kind of home remedies."*

P10: *"I rather than going to bed with a headache, also, you know, I take natural remedies. Like garlic also, you know, a crack of garlic also. And if anything, sometimes a little lemon juice, lemon juice, you know, it's not that I prefer it. It's just, you know, the need at the time."*

P7: *"You must use a lot of cucumber. That is very good in itself. I tried two salads that I used to keep and juice, cucumber juice, put in the fridge and drink it."*

P5: *"Drink plenty of water. Actually, I used to take the medication every day, but then after I find out about the side effects, I ease it off and pay attention to the diet. And also garlic, you know, use a lot of garlic."*

Discussion

Preference for Pharmaceutical Remedies

Both our study and those of Mphuthi et al. (2022), Ibrahim et al. (2017), and Osamor et al. (2010) reveal a strong reliance on pharmaceutical medications among participants. Our participants expressed a high level of trust in the efficacy and immediate effects of pharmaceuticals prescribed by healthcare professionals. This is echoed in Ibrahim et al. (2017), where participants highlighted the perceived effectiveness of pharmaceuticals, although some also reported a preference for CAM (Complementary and Alternative Medicine) due to cultural and personal beliefs. Similarly, Cornnell et al. (2005) observed a reliance on doctors' advice among participants of black Caribbean ethnicity, with prescribed drugs being seen as well-tested and essential for blood pressure management. This trust suggests that when confident in their healthcare providers, patients are more likely to adhere to prescribed treatment plans. Conversely, Tan et al. (2017) provide a more nuanced view of adherence, noting practical challenges such as medication intake timing and lifestyle factors' influence. These findings indicate that while patients may be committed to their medication regimens, everyday realities and logistical challenges can impede consistent adherence.

In contrast, Shamsi et al. (2018) highlighted concerns regarding the long-term side effects and potential dependency associated with pharmaceutical medications, suggesting a more critical view of pharmaceuticals compared to our findings. Azizah et al. (2021) also reported negative perceptions about pharmaceutical medications, emphasising the fear of adverse effects and a preference for natural remedies due to perceived safety.

Use of Traditional Remedies

Our study found that herbal remedies are often used instead of pharmaceuticals, driven by cultural heritage and personal preferences. This aligns with Mphuthi et al. (2022), where the use of medicinal plants is common, with knowledge often passed down through generations. Ibrahim et al. (2017) also observed a significant use of CAM, including herbal treatments and dietary supplements, supported by cultural beliefs and advice from friends and family. This is in line with findings from Cornell et al. (2005), where Caribbean participants used herbal remedies known as 'bush' alongside prescribed medications. Similarly, De Wet et al. (2016) noted that knowledge of medicinal plants, including those used for hypertension, is often passed through community members or family, indicating a strong cultural influence on treatment choices. Tan et al. (2017) report a similar utilisation of herbal medicines, though they also note a divide in acceptance among their participants, suggesting that exposure to and education about herbal treatments may influence their use.

Musinguzi et al. (2018) noted a similar trend, where participants used herbal remedies due to accessibility and cost-effectiveness. Osamor et al. (2010) found that a significant proportion of respondents used CAM, with some combining it with hospital care, highlighting a holistic approach to managing hypertension. This trend underscores a holistic approach to health that combines modern and traditional therapies, reflecting a broader acceptance and integration of different health modalities. Liwa et al. (2017) emphasised the use of herbal medicine as a substitute or complement to allopathic treatments, particularly among those with lower adherence to pharmaceutical regimens.

Integrated Approach to Treatment

Our participants frequently combined pharmaceutical and herbal treatments, adjusting their methods based on personal experiences. This integrated approach is supported by Mphuthi et al. (2022), where participants used both medicinal plants and Western medications, and Ibrahim et al. (2017), who noted the concomitant use of pharmaceuticals and CAM among respondents. Musinguzi et al. (2018) also reported patients using both modern and traditional treatments, are influenced by their perceptions of efficacy and accessibility. In our findings, as well as those

from Mphuthi et al. (2022) and Ibrahim et al. (2017), many patients use a combination of medicinal plants and Western medications. This practice is not merely about preference but often about maximising the benefits of each treatment modality. For instance, while pharmaceuticals can provide quick and measurable effects on blood pressure levels, herbal remedies are often perceived as offering longer-term benefits to overall health without the harsh side effects sometimes associated with prescription medications. This blending of treatment modalities suggests a pragmatic approach to managing hypertension, where patients tailor their health strategies to suit their individual needs and contexts.

Health Monitoring and Self-Care

Regular monitoring and self-care were emphasised in our study, with participants actively managing their hypertension through lifestyle adjustments and home blood pressure monitoring. This proactive approach is mirrored in Mphuthi et al. (2022) and Ibrahim et al. (2017), where participants regularly monitored their blood pressure and incorporated lifestyle changes such as diet and exercise to manage their condition. This proactive approach enables timely adjustments to treatment regimens, thereby preventing complications. Moreover, Shamsi et al. (2018) discuss the role of lifestyle modifications—such as diet and exercise—in stabilising blood pressure, which are often identified and fine-tuned through regular monitoring.

Accessibility and Availability

Accessibility to treatments played a crucial role in treatment choices in our study. Mphuthi et al. (2022) and Musinguzi et al. (2018) found similar trends, with the availability and cost of treatments influencing the use of both pharmaceuticals and herbal remedies. When antihypertensive medications and healthcare services are readily available, patients are more likely to adhere to treatment recommendations. However, in regions where healthcare infrastructure is lacking, patients often resort to alternative treatments, including herbal remedies and traditional practices, as observed in the studies by Cornnell et al. (2005) and De Wet et al. (2016). The affordability of hypertension treatments is another critical aspect of accessibility. High costs associated with medications and healthcare services can deter patients from following prescribed treatment plans. This issue is particularly significant in lower-income populations, where the cost of medication can be prohibitive. Our findings align with those of Ibrahim et al. (2017) and Osamor et al. (2010), where financial constraints led to inconsistent medication adherence and increased reliance on cheaper alternative remedies. Ibrahim et al. (2017) noted that participants often sought CAM due to affordability and ease of access, and Osamor et al. (2010) reported that lower costs and community accessibility made CAM a popular choice.

Education and Awareness

Educational background and access to health information significantly influenced treatment choices in our study. Mphuthi et al. (2022) and Ibrahim et al. (2017) also highlighted the role of education and awareness in treatment decisions, with participants seeking information from various sources, including healthcare professionals and community knowledge. Higher educational levels are often associated with a better understanding of hypertension and its treatments. Educated patients are more likely to engage in active health-seeking behaviours and adhere to prescribed treatment regimens. For example, studies such as those by Mphuthi et al. (2022) and Ibrahim et al. (2017) show that patients with higher education levels are more likely to use a combination of pharmaceuticals and CAM, indicating a nuanced understanding of the benefits and limitations of different treatment modalities. In contrast, those with lower education levels might rely more on traditional knowledge and less on biomedical treatments, possibly due to a lack of understanding about the condition or scepticism towards medical interventions. Osamor et al. (2010) emphasised the impact of cultural beliefs and education on the use of CAM.

Cultural background significantly influences how patients receive and interpret health information. For instance, in the Caribbean community studied by Cornell et al. (2005), traditional beliefs and remedies are integrated into the everyday management of health, with 'bush' medicine being an essential part of hypertension care. This cultural preference underscores the importance of culturally tailored health education that respects and incorporates traditional beliefs while providing scientifically accurate health information.

Experiences with Side Effects

The management of side effects was a common theme across our study and others. Participants in our study adjusted their medication regimens in response to adverse effects, similar to findings by Shamsi et al. (2018) and Azizah et al. (2021), where concerns about side effects led to modifications in treatment plans. Liwa et al. (2017) also reported that adverse effects influenced medication adherence and the use of alternative treatments. This is highlighted in the narratives from Cornell et al. (2005), where participants adjusted their use of medications based on personal experiences of side effects or the perceived normalcy of their blood pressure levels.

Use and Preparation of Traditional Remedies

Participants employ a range of local herbal treatments, including cucumber, garlic, lemon juice, and karela bush. These remedies are typically prepared as juices, teas, and decoctions, tailored to individual needs and preferences, indicating a personalised approach to managing health conditions (User's findings).

This personalised and informal use of herbal remedies is echoed in the findings of Connell et al. (2005), who described the use of 'bush' remedies among Caribbean populations. These herbal treatments, including medina, banana leaf, breadfruit leaf, and green papaya, are often chosen for their perceived naturalness and lack of impurities compared to pharmaceuticals. Connell et al. (2005) noted that such remedies were used not only for their medicinal properties but also for their roles in cultural traditions and blood purification.

Similarly, De Wet et al. (2016) documented the structured use of indigenous plants like *Momordica balsamina* for hypertension in South Africa. Their study highlighted the novelty and efficacy of these plants in clinical settings, suggesting an integration of traditional practices with formal recognition of their potential in managing hypertension.

The integration of traditional remedies with prescribed medications is a nuanced practice, as evidenced by the research from Mphuthi et al. (2022). This study observed that the duration and method of herbal medicine usage were often aligned with the individual's duration of diagnosed hypertension, indicating a long-term integration of these practices into daily life.

Furthermore, Ibrahim et al. (2016) explored the dual use of complementary and alternative medicine (CAM) alongside conventional treatments. Their findings revealed that many patients prefer using herbal and vitamin supplements along with their prescribed medications due to perceived benefits such as enhanced well-being and safety from side effects. This study also highlighted a significant communication gap, with patients often hesitant to disclose their use of CAM to healthcare providers due to fear of disapproval or a lack of time during consultations.

These studies collectively underscore the pervasive use of herbal remedies across different cultures and geographic locations, emphasising the need for greater integration of traditional knowledge into mainstream healthcare.

Conclusion

The synthesis of findings across various studies underscores a multifaceted approach to hypertension management that incorporates pharmaceuticals, herbal remedies, lifestyle modifications, and regular health monitoring. Cultural influences, accessibility, and personal experiences significantly shape treatment choices, highlighting the need for a holistic and culturally sensitive approach. Future research should continue to explore these dynamics to inform healthcare practices and policy development. Studies from diverse settings reveal a common theme: many patients rely on and trust herbal remedies due to their natural composition and perceived safety compared to pharmaceutical drugs. These practices are deeply embedded in the cultural fabric of communities and are often passed down through generations, demonstrating not only a medical but also a cultural reliance on herbal treatments.

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