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RESEARCH ARTICLE **OPEN ACCESS**

Perceptions of Medication Adherence among Elderly Patients with Hypertension in Bangkok: A Qualitative Study

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Abstract:

Background: Hypertension, a major global health issue associated with cardiovascular diseases, requires effective management, primarily through medication adherence. This study, conducted in a culturally diverse city, Bangkok, investigated elderly hypertensive patients' perceptions and adherence behaviors.

Objective: The study aimed to explore the nuanced perceptions and experiences influencing medication adherence among elderly hypertensive patients in Bangkok.

Methods: A qualitative approach was adopted for this study, involving detailed interviews with 25 elderly Thai individuals diagnosed with hypertension. Data were gathered over a six-month timeframe. Thematic content analysis was employed to deeply analyze the individuals' experiences and perceptions, aiming for a richer understanding.

Results: Four primary themes emerged regarding participants' views on hypertension medication. The first theme centered on apprehensions about the long-term use of medication, particularly fears of liver and kidney damage affecting adherence. The second theme highlighted a preference for traditional remedies, like moringa, ginger, and garlic over standard pharmaceuticals, with limited discussion with healthcare providers. The third theme tackled myths surrounding hypertensive medication, such as misconceptions about drug interchangeability and the chronic nature of the condition. The final theme focused on beliefs about the recurrent or untreatable nature of hypertension, leading some to favor lifestyle modifications over regular medication use.

Conclusion: This study sheds light on the complex factors affecting medication adherence in elderly hypertensive patients in Bangkok, emphasizing the need for culturally sensitive, patient-centered interventions. It advocates for holistic hypertension management that considers patient perspectives and cultural context to improve outcomes.

Keywords: Medication adherence, Hypertension, Elderly patients, Medication perceptions, Traditional remedies, Hypertensive myths, Cultural health beliefs.

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1. INTRODUCTION

Hypertension, characterized by persistently high blood pressure, is becoming increasingly prevalent among the elderly. This trend coincides with the global rise in the

number of elderly individuals, emphasizing the pressing need for effective management strategies [1]. These strategies generally include both pharmacological interventions and lifestyle modifications [2, 3]. In this study, we utilized qualitative methodology, conducting semi-structured interviews with elderly individuals diagnosed with hypertension. Our participants came from various healthcare settings, including primary care units and geriatric clinics [4]. Medication non-adherence is a significant challenge in hypertension management, particularly within the older adult demographic. Reduced adherence to treatment regimens as individuals age amplifies the risks associated with uncontrolled blood pressure [5, 6]. Therefore, understanding the attitudes and behaviors of the elderly towards medication is imperative in devising tailored interventions aimed at enhancing treatment outcomes.

Research indicates the pivotal role of medication adherence in managing hypertension. Chowdhury *et al*. (2013) [7] noted that strong adherence to antihypertensive medications resulted in a notable reduction in major cardiovascular events [7]. Similarly, Dragomir *et al*. (2010) [8] found a positive association between high adherence levels, improved blood pressure control, and reduced cardiovascular hospitalizations [8].

The primary objective of this study was to investigate the perceptions and experiences of elderly hypertensive patients regarding medication adherence. It aimed to gain an in-depth understanding of the beliefs, motivations, and challenges they face in adhering to their medication regimen. This exploration enabled the identification of specific factors that acted as barriers or facilitators to medication adherence in this population. The insights gained will be instrumental in formulating strategies to enhance adherence, ultimately aiming to improve health outcomes in elderly patients with hypertension.

1.1. Theory and Conceptual Framework of the Research

1.1.1. Hypertension and Medication Adherence

Hypertension, often referred to as high blood pressure, impacts a vast segment of the global population and stands as a principal contributor to cardiovascular diseases. Effective blood pressure control, primarily achieved through consistent medication adherence, is fundamental for mitigating health risks [7, 8].

1.1.2. Significance of Adherence

Adherence depicts the consistency with which patients follow their medication schedules. For hypertensive individuals, consistent use of antihypertensive drugs is crucial for blood pressure management and prevention of complications. A meta-analysis by Chowdhury *et al*. (2013) [7] emphasized this correlation, noting that enhanced adherence leads to a marked reduction in cardiovascular events. Similarly, Dragomir *et al*. (2010) [8] found patients with higher adherence rates to exhibit improved blood pressure control, as compared to their less adherent counterparts.

1.1.3. Barriers to Adherence

Despite the acknowledged significance of adherence, several factors challenge its realization. These include forgetfulness, intricate medication regimens, misconceptions about medication's importance, side effects, medication costs, and individual beliefs and attitudes [9, 10].

1.1.4. Strategies for Enhancing Adherence

To enhance adherence, a combination of strategies is vital. These include educating patients about the advantages of consistent medication intake, potential side effects, and the importance of ongoing treatment [9]; simplifying drug regimens with tools, such as pill organizers can promote adherence [10]; and finally, fostering open, trust-filled dialogues between patients and providers, which may ensure that their concerns are voiced and addressed, thus facilitating tailored guidance and rectifying misconceptions [9].

Adherence to antihypertensive medications is integral to hypertension management. With its evident benefits and numerous studies supporting its significance, it is imperative to address adherence barriers and adopt strategies ensuring consistent medication use for optimal patient outcomes.

2. MATERIALS AND METHODS

2.1. The Population, the Sample Group, and the Informants

This study employed a targeted sampling strategy, focusing on a specific demographic within an urban community in Bangkok. This decision was based on the recognition that Bangkok harbors the country's largest elderly population. Participants were identified from a registry of chronically ill patients, with the selection process being specifically concentrated on elderly hypertensive individuals aged 60 years and above who had a history of consistent antihypertensive drug usage for a minimum of 10 years.

The inclusion criteria stipulated that participants must be proficient in Thai, free from intellectual or hearing impairments, and demonstrate a willingness to participate in detailed, in-depth interviews. This rigorous selection process resulted in the inclusion of 25 participants. Data were collected over a span of six months, continuing until thematic saturation was attained. This state of saturation was identified when no further novel insights or themes emerged, thereby ensuring a comprehensive examination of the research topic. Regarding the exclusion criteria, the study deliberately omitted participants with severe cognitive impairment or those in advanced stages of terminal illnesses. These conditions were considered likely to significantly influence medication adherence behaviors, thereby posing a risk of confounding the study's outcomes. Through the application of these criteria, the study sought to specifically isolate factors related to hypertension management in the elderly, thus enhancing the reliability and validity of its findings.

2.2. Instruments

A semi-structured interview guide was developed after a thorough literature review. An expert panel from disciplines, like social sciences, community pharmacy, and qualitative research, critically assessed its suitability, ensuring its alignment with the research objectives.

2.3. Research Data Collection and Data Analysis

Interviews conducted with elderly hypertensive patients were meticulously audio-recorded and subsequently transcribed verbatim. To ensure accuracy, these transcriptions were rigorously cross-checked against the original recordings. For linguistic coherence and consistency, the transcripts were initially prepared in Thai and then back-translated into English. Thematic analysis was employed to conduct an in-depth examination of the content. The involvement of co-authors in the re-analysis process served to enhance the validity of the findings. Each interview session spanned approximately 25-30 minutes, focusing primarily on the patients' perceptions of antihypertensive medications and their experiences with these treatments. This methodological approach was designed to capture a comprehensive view of the patients' experiences, thereby illuminating various dimensions of hypertension management.

3. RESULTS

The study involved a cohort of 25 urban-dwelling individuals, all diagnosed with hypertension. Educational levels among these participants varied, with the largest group, comprising 13 individuals, holding Bachelor's degrees. This was followed by 6 participants who had completed secondary education, and an equal number of 3 individuals each had attained primary education and Master's degrees. The duration of hypertension among the participants ranged between 10 to 30 years, with an average duration of 23.04 years. The age range of the cohort was broad, spanning from 65 to 87 years, resulting in an average age of 73.88 years. The longest reported duration of hypertension in the group was 33 years, and the shortest was 12 years. Regarding medication management, the most commonly prescribed medications were from the angiotensin-converting enzyme inhibitor (ACEI) category, followed by angiotensin receptor blockers (ARBs). A significant number of these patients also presented with comorbid conditions, predominantly diabetes mellitus, followed by hyperlipidemia. Comprehensive demographic and medical information about the study participants is detailed in Table **1**.

Table 1. Study participants' demographic characteristics.

Code	Age (years)	Sex	Duration of Hypertension (years)	Drug Treatment for Hypertension	Comorbidities	Number of Modern Hypertension Medications Used by Patients	Number of Traditional Thai Hypertension Medications Used by Patients
P1	68	Male	16	ACEIs, diuretic drugs	Diabetes and hyperlipidemia	2	-
P2	72	Female	24	ACEIs, CCBs, diuretic drugs	Diabetes	3	-
P3	77	Female	21	ARBs, CCBs, diuretic drugs	Diabetes and hyperlipidemia	3	-
P4	71	Male	21	ACEIs, CCBs	Diabetes	2	-
P5	68	Male	15	ARBs, CCBs	Hyperlipidemia	2	-
P6	69	Female	12	ACEIs, diuretic drugs	Diabetes and hyperlipidemia	2	-
P7	73	Male	19	ACEIs, CCBs, beta-blockers, diuretic drugs	Hyperlipidemia	4	-
P8	79	Male	31	ARBs, CCBs, beta-blockers, alpha-blockers, diuretic drugs	Diabetes, stroke, and hyperlipidemia	5	-
P9	83	Female	33	ACEIs, CCBs, beta-blockers, alpha-blockers, diuretic drugs	Diabetes, stroke, and hyperlipidemia	5	-
P10	85	Male	31	ACEIs, CCBs, beta-blockers, diuretic drugs, direct-acting systemic arteriolar vasodilators	Diabetes	5	-
P11	65	Male	17	ARBs, CCBs, beta-blockers, alpha-blockers, diuretic drugs	Stroke and hyperlipidemia	5	1
P12	67	Female	13	ACEIs, diuretic drugs	Diabetes	2	-
P13	66	Male	14	ACEIs, diuretic drugs	Hyperlipidemia	2	-
P14	69	Male	17	ARBs, beta-blockers, diuretic drugs	Hyperlipidemia and knee osteoarthritis	3	4
P15	73	Female	18	ARBs, diuretic drugs	Diabetes	2	-
P16	74	Male	24	ARBs, CCBs, beta-blockers, diuretic drugs	Diabetes and hyperlipidemia	4	-
P17	87	Male	31	ARBs, CCBs, beta-blockers, diuretic drugs, direct-acting systemic arteriolar vasodilators	Diabetes and knee osteoarthritis	5	-

(Table 1) contd.....

Code	Age (years)	Sex	Duration of Hypertension (years)	Drug Treatment for Hypertension	Comorbidities	Number of Modern Hypertension Medications Used by Patients	Number of Traditional Thai Hypertension Medications Used by Patients
P18	76	Male	28	ACEIs, diuretic drugs	Diabetes and hyperlipidemia	2	-
P19	75	Male	25	ACEIs, CCBs, beta-blockers	Hyperlipidemia	3	-
P20	73	Female	24	ARBs, CCBs, alpha-blockers, diuretic drugs	Hyperlipidemia and knee osteoarthritis	4	-
P21	76	Male	22	ACEIs, CCBs, diuretic drugs	None	3	4
P22	67	Male	17	ARBs, CCBs, diuretic drugs	Diabetes and hyperlipidemia	3	1
P23	77	Male	21	ACEIs, beta-blockers, diuretic drugs	Diabetes and hyperlipidemia	3	-
P24	78	Female	22	ARBs, alpha-blockers, diuretic drugs	Hyperlipidemia and hypersensitivity	3	-
P25	79	Female	23	ARBs, CCBs, diuretic drugs	Diabetes and hyperlipidemia	3	3

The study has unveiled a range of perceptions and beliefs among participants regarding hypertension medications, encapsulated in four predominant themes. Firstly, there was a discernible perception of the benefits and risks associated with long-term use of these medications, characterized by apprehensions about potential organ damage and the fear of developing additional health conditions. Secondly, participants perceived a decline in the efficacy of these medications over time. This fostered a belief in the necessity for dosage increases and revealed a common misunderstanding about the rarity of drug resistance in hypertension treatment. Thirdly, the study found a preference among participants for traditional remedies' over-prescribed medications, attributed to their beliefs in the superior safety and effectiveness of these natural alternatives. Lastly, the research has identified prevalent misconceptions regarding the interchangeability of different drugs, the persistent nature of hypertension, and confusion regarding the appropriate timing for medication administration. Additionally, there was a notable belief that lifestyle factors might prove more effective than medication in managing blood pressure. Within the Bangkok milieu, the administration of antihypertensive medication aimed at maintaining blood pressure within the established normative threshold of no more than 140/90 mmHg is contingent upon both laboratory test results and the clinical judgment of the attending physician.

3.1. Theme 1: Perceptions of the Benefits and Risks associated with Medications

During the interviews, patients elaborated on their current medication regimens and perspectives on their treatment. Among the respondents, 23 individuals perceived that the potential side effects of their medications surpassed the benefits. In contrast, two participants (P8 and P23), not sharing this belief, voiced apprehensions about the long-term effects of the drugs, particularly in the context of pre-existing medical conditions.

3.1.1. Subtheme 1: Association of Prolonged Drug Utilization with Enduring Health Implications

The participants in this study exhibited varying levels of adherence to the prescribed guidelines for medication management. While a subset of individuals demonstrated stringent adherence to their doctors' recommendations, others voiced uncertainties and engaged in discussions regarding their medication choices. Notably, certain participants occasionally deviated from the recommended regimen out of their concerns over the potential adverse effects on hepatic and renal function, potentially culminating in future kidney failure. More specific information on this topic is presented below:

"Indeed, I do make use of medications; however, it is important to acknowledge that they are chemical substances that can potentially harm the body. Consistent utilization of medications has the potential to negatively impact the liver and kidneys, and I am apprehensive about possibly acquiring an additional health condition. Consequently, I take measures to limit my reliance on medications." (P23)

"I have observed that numerous individuals have been consuming the medication for an extended period, and as a result, many of them have experienced a decline in glomerular filtration. The doctor has indicated the possibility of requiring dialysis in such cases." (P3)

"I am currently prescribed a considerable number of medications, including those for managing blood pressure and diabetes. Unfortunately, my kidney function has declined to stage 3, and it is rapidly approaching stage 4. Dialysis treatment will likely become necessary in the near future." (P23)

"I prefer to avoid relying on medications. There are days when I do not experience any headaches, causing me to forget to take them. I have concerns about the potential harm that excessive medication consumption may inflict on my liver and kidneys, ultimately leading to their deterioration." (P7)

"The prolonged and excessive use of medications can indeed have adverse effects on one's health." (P8)

"The presence of a medicinal smell in my urine makes

me speculate that my kidneys are exerting significant effort to process and eliminate the medication." (P1)

3.1.2. Subtheme 2: Extended Duration of Drug Administration can Lead to the Development of Drug Resistance

In antihypertensive treatment, drug resistance is rare. However, the efficacy of these medications can decrease over time as a result of disease progression, lifestyle changes, or the emergence of other health conditions. Consequently, treatment adjustments, like dosage increases or adding new medications, may be necessary for blood pressure control. Further details on this topic are as follows:

"I personally observed that despite taking the medication, my condition did not improve. This lack of any improvement could indicate that the medicine may not be suitable for me. It is also possible that over time, the effectiveness of certain drugs may decrease, requiring additional medications to achieve desired results. When a *drug is not working to its fullest potential, its inactivity suggests that it is not highly effective, and the body may not be responding adequately, necessitating the addition of supplementary medications."* (P2)

"The prolonged utilization of antihypertensive medications often necessitates the need for dosage escalation. Individuals may strive to minimize their food intake, particularly fried foods, and opt for healthier options, like steamed fish, in an attempt to lower their blood pressure." (P7)

"I believe that medications may reach a stage where they no longer provide benefits, similar to the way that diseases can develop resistance to drugs." (P22).

3.2. Theme 2: Perceptions regarding Traditional Remedies

Participants believed that herbal medicines, including moringa leaves, ginger, galangal, and fresh garlic, could substitute for prescribed blood pressure medications. Many of them had sourced these remedies from acquaintances or direct-sales ads on television. Despite their herbal consumption, they were hesitant to consult healthcare professionals about using these herbs with their prescriptions, fearing potential adverse effects from prolonged medication use. Further details on this topic are as follows:

"I think herbs are plants, so they should not have any negative effects on the body. I think it is better than medications; I also take a mix of medicines and plants. It would be good to reduce the amount of medicines a bit." (P21)

"I witnessed my parents administering herbs and home remedies to me and other children. They believed that natural products have no negative impact on the human body. I grew up accustomed to using these traditional remedies. In the case of hypertension, I opt for traditional products and only consult a doctor when my condition becomes severe." (P25)

"My wife, who is paralyzed, consumed moringa leaves in tablet form. As for myself, I also consumed moringa leaves to manage my blood pressure. I believe that reducing the dosage of my blood pressure medication would be beneficial. However, I hesitate to do so out of embarrassment when visiting the doctor. I fear being questioned about the remaining medication and do not want to lie to the doctor, as I am afraid he might be angry with me." (P11)

"In my opinion, when comparing herbs with the medication prescribed by the doctor, I find the medication to be uncomfortable at times, causing nausea. On the other hand, consuming herbal medicine can be challenging, but it does not have any harmful effects. There are days when I choose not to take the medication and instead opt for fresh garlic, which proves to be effective, as I experience no headaches or dizziness from it."(P22)

"In earlier times, when modern medicine was not available, people relied on plants and herbs to treat various illnesses. The use of herbs was considered beneficial, but because of their limited availability, pills and medications became the more convenient option. However, if herbs were easily accessible, they could be utilized as an effective alternative to drugs, yielding positive outcomes in terms of treatment." (P14).

3.3. Theme 3: Hypertensive Medication Myths

Hypertensive medication myths refer to misconceptions or misunderstandings surrounding medications used to treat hypertension. Here are some common myths associated with hypertensive medications:

3.3.1. Subtheme 1

Only one type of medication must be consumed because all options are blood pressure medications. This misconception suggests that it is sufficient to consume only one type of medication for managing high blood pressure, as all available options are believed to be equally effective. More specific information on this topic is presented below:

"The doctor's note states that the medication reduces blood pressure, but I believe there are several options that achieve the same outcome. Therefore, I suggest selecting the one that does not have any dietary restrictions. The doctor has prescribed a medication that effectively decreases blood pressure. However, since there are various alternatives available, I have chosen to consume small pellets as my preferred option." (P16)

"I choose to consume only one type of medication because all three options are blood pressure medications and I believe they have similar effects. If I forget to take it occasionally, I do not think it would have a significant impact, since they are essentially the same type of medication." (P6)

"The doctor prescribed two blood pressure medications to be taken with two meals per day. However, there are instances when the medication may run out or

go missing, resulting in only one pill being taken in the morning. Despite this situation, I'm not overly concerned, because I believe I have taken at least one dose of the morning blood pressure medication." (P15)

3.3.2. Subtheme 2

Once blood pressure is under control, medication can be stopped. Informants may believe that once their blood pressure is within the target range, they can discontinue their medication. They may perceive that their hypertension has been "cured" or that medications are no longer necessary. More specific information on this topic is presented below:

"Although my blood pressure is high, I feel fine without experiencing any symptoms, like headaches or dizziness, that are typically associated with high blood pressure. So, for this reason, I tried to stop taking the medication, and I did not notice any abnormalities or adverse effects." (P11)

"Even though I have never experienced any symptoms, I decided to measure my blood pressure. The readings consistently showed normal values, with the systolic (upper) reading not exceeding 130. Because of this favorable reading, I made the choice to stop taking the medication without informing the doctor, fearing his disapproval. However, I still continue to take the medication whenever I experience a headache, sometimes even waiting a while before doing so." (P22)

"Is there a program for donating drugs? I regularly collect medicines every six months as my symptoms remain stable, and I require a significant amount of medication." (P17)

"Although I have not been taking the medication consistently, my blood pressure measurements have been consistently normal. I believe that the fluctuations in my blood pressure are not significant enough to require medication." (P24)

3.3.3. Subtheme 3

The antihypertensive medication is suitable for consumption at any time. There is a misconception that blood pressure medication can be taken at any time without considering specific instructions or recommendations. More specific information on this topic is presented below:

"I neglect to have regular meals, occasionally skipping lunch. Consequently, I need to adhere to the doctor's instructions. The doctor advised me to have breakfast, eat after meals, and engage in household chores, so I must remember to take the medication twice a day, at any given time, as per the doctor's prescription." (P14)

"I understand that your sleep schedule can vary, sometimes waking up as early as 4 a.m, when it's not yet time to take your medication. In such cases, you fall back asleep and wake up again around 10 a.m. After you have had a meal and taken the medication, it is nearly 11 o'clock. It is important to note that if you have not experienced any symptoms or adverse effects from this timing variation, it might not be a cause for concern. As long as you are consistently taking your medication once a day and following the doctor's instructions regarding meals, it should generally be fine. Remember to consult your doctor if you have any specific concerns or if you experience any unexpected symptoms." (P21)

"Normally, I take the medication within a specific time frame. The doctor instructed me to take it once a day. However, there is variability in the timing, so on some days, I take it around 8 o'clock, and others around 11 o'clock. I understand that the medication can be taken at any time. In the morning, it should be taken before noon, but I am unsure whether the exact time is really crucial." (P20).

3.4. Theme 4: Beliefs regarding Hypertension and its Control

These beliefs may stem from various factors, including personal experiences and lack of adequate knowledge about the condition.

"It seems that despite taking the medication correctly, my blood pressure still rises when I experience sadness or when I'm engaged in important tasks. According to my doctor, if I consistently adhere to the medication regimen, I should not experience these fluctuations. This movement in my blood pressure leads me to believe that this condition may be untreatable, and no matter what I do, it will continue to recur." (P1).

"I experience a sense of relaxation and my blood pressure stays within a manageable range whenever I go out with my family. During those times, I can even go without taking medication for several days without any adverse effects. I believe that it is the regular activities and routines that help regulate my blood pressure, rather than relying solely on medications." (P6).

"My mother had hypertension for 25 years, during which she followed a strict dietary plan and took her medication regularly. Despite these efforts, her blood pressure remained uncontrolled. Her unresponsive condition leads me to believe that measures, such as diet plans, exercise, and medication have no impact on hypertension. Once hypertension develops, it seems to be a lifelong condition with no feasible solutions." (P8).

"When I take my medication, my blood pressure is controlled effectively. As a result, I often decide to discontinue taking the medication for a week before resuming it again. After all, if I feel fine, why should I continue using medication?" (P12).

4. DISCUSSION

4.1. Perceptions of Medication Benefits and Risks

Participants displayed varied views regarding hypertension medications, emphasizing potentially adverse effects, notably with respect to renal health and the risk of drug resistance, which could necessitate medication changes [11]. Issues, such as concerns over side effects, complex drug regimens, and forgetfulness, compounded by concurrent conditions requiring multiple drugs, often challenge medication adherence [12].

Addressing these concerns is crucial to enhancing adherence among hypertensive patients.

4.1.1. Prolonged Drug Utilization and Health Implications

Chronic medication use can lead to lasting health issues. For instance, continuous intake of certain drugs might result in complications, like liver or kidney damage, gastrointestinal problems, and cognitive decline [13]. Some drugs, when used for the long term, can lead to tolerance, necessitating higher doses to achieve the desired effect, thus increasing the risk of side effects [14].

4.1.2. Extended Duration and Drug Resistance

The notion of "drug resistance" in hypertension is often misconstrued. True pharmacological resistance to antihypertensive medications is a rare phenomenon [15]. However, the effectiveness of these drugs can wane over time due to variables, such as disease progression, lifestyle alterations, or the onset of additional health issues, as demonstrated in the current study. Compounding this complexity is the emerging role of gut microbiota, as elucidated in the research by Kyoung *et al*. [16]. This study posited that the gut microbiota significantly affects the metabolism and efficacy of antihypertensive medications and suggested that interindividual differences in gut microbiota composition may contribute to varied drug responses, a consideration often overlooked in conventional approaches to hypertension management. This might elucidate the reduction in drug effectiveness over time as observed with certain participants of this study.

4.2. Perceptions Regarding Traditional Remedies

In Thailand, aging adults have a pronounced preference for herbal medicines over modern medical treatments. Rooted in cultural values, historical experiences, and perceptions of safety and efficacy, this inclination towards herbal solutions is both profound and widespread [17]. However, even with their natural appeal, herbal treatments can pose risks when paired with conventional medications, potentially causing adverse interactions [18]. Therefore, healthcare practitioners should prioritize culturally sensitive communication, addressing both the merits and risks associated with herbal medicines.

Globally, the reverence for traditional remedies transcends borders. Especially among the elderly, these remedies are trusted as a consequence of the culturally based stories that they have heard since early youth and lifelong experiences [19]. In view of their global resonance, understanding the integration of traditional remedies in healthcare is essential. Their appeal to the elderly often stems from their straightforward nature and familiarity, which are often in stark contrast to the complexity of modern drugs [20].

A critical aspect to consider, especially for the elderly, is polypharmacy, *i.e*., the simultaneous use of multiple drugs. Combining traditional remedies with contemporary medications might result in unintended interactions, which can alter the efficacy of treatments or introduce side effects [21]. For instance, some traditional remedies for depression might conflict with medications frequently prescribed for the elderly, like anticoagulants and antihypertensives, leading to health complications [22]. Navigating these complexities requires culturally adept healthcare professionals. These providers can foster an understanding of the interplay between traditional and modern medicine [23]. The goal should be a harmonious blend of traditional insights with evidence-based practices, ensuring that the elderly care being administered is both culturally congruent and medically sound.

4.3. Hypertensive Medication Myths

Several myths surround hypertensive medications, such as the sufficiency of a single medication type, the notion that medication can be halted once blood pressure normalizes, and the belief that medication can be taken indiscriminately [24-26]. These misconceptions underscore the need for transparent patient education. By elucidating the multifaceted nature of hypertension and its long-term management, healthcare professionals can dispel these myths and bolster adherence.

Furthermore, the beliefs of the participants pertaining to hypertension management were influenced by personal experiences and knowledge gaps. Observations of persistent high blood pressure, even with medication, or witnessing a relative's adverse drug reactions can skew perceptions [27]. Misunderstandings, like viewing hypertension as curable or believing in the sole efficacy of lifestyle changes, hint at a lack of comprehensive knowledge [12, 28]. For a truly effective management of hypertension, bridging these knowledge gaps is going to be essential. Through transparent communication and comprehensive education, healthcare providers can guide patients towards informed decisions, promoting better adherence and efficient blood pressure control.

4.4. Beliefs regarding Hypertension and its Control

The prevailing beliefs of patients concerning hypertension deeply influence their perceptions, treatment choices, and overall health management. Several factors, especially personal experiences with this condition, shape these beliefs. A patient who has tried multiple medications without success may come to believe that their hypertension is incurable. Side effects from antihypertensive drugs can also lead to negative perceptions of their effectiveness [19]. Furthermore, misconceptions about hypertension often arise from a lack of understanding, with many attributing this to inadequate education [20]. Hence, a tailored patient education program is crucial for enhancing treatment adherence and achieving better outcomes.

CONCLUSION

Results obtained from this study highlight a preference among participants for herbal remedies, which are perceived as having fewer adverse effects than conventional medications. However, there is a certain hesitance in

consulting healthcare professionals about herbal use, likely resulting from concerns about perceived long-term medication risks and potential criticism. Bridging this communication gap is vital, emphasizing the need for open dialogue. Healthcare providers play a central role in disseminating evidence-based knowledge on herbal remedies, addressing their potential risks, benefits, and possible interactions with other medications. As aging introduces physiological changes that may heighten risks from herbal remedies, it is essential that older adults seek medical advice before using them. Emphasis should be on standardized formulations and potential interactions with other drugs. Promoting collaboration and shared decision-making between patients and healthcare professionals is essential for optimal healthcare outcomes.

RESEARCH LIMITATIONS

The geographic and healthcare-setting specificity of this study introduces a potential limitation regarding the generalizability of the findings to broader regions or to other healthcare systems characterized by distinct contexts, cultural norms, and/or healthcare practices.

RECOMMENDATIONS FOR FUTURE RESEARCH

The following aspects need to be taken into account in the future research.

1. Longitudinal adherence assessment: Sustained blood pressure control and complication prevention hinge on persistent adherence to hypertensive medications. Longitudinal studies can provide insights into adherence patterns over time and the determinants of consistent adherence. Future research should prioritize such studies.

2. Cultural and psychological dimensions: Adherence behavior is influenced by cultural beliefs, medication attitudes, and psychological determinants. Investigating how these factors shape adherence in various populations, including ethnic and minority groups, is essential. Future studies should be aimed at tailoring interventions that are culturally appropriate.

3. Provider-led interventions: Healthcare providers are instrumental in fostering medication adherence. Future research should focus on the efficacy of specific provider interventions, encompassing communication tactics, collaborative decision making, and strengthening provider-patient relationships as a means of enhancing both adherence and patient health outcomes.

ETHICAL STATEMENT

The IRB of this study has been approved by the Kuakarun Faculty of Nursing IRB committee, which follows the Declaration of Helsinki guidelines [29]. The IRB study code is KUREC-SS63/214.

CONSENT FOR PUBLICATION

Informed consent was obtained from all participants who took part in this study.

STANDARDS OF REPORTING

COREQ guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data and supportive information are available within the article.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest, financial or otherwise.

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