Barriers and Facilitators to Successful Hypertension Management in Older Adults from the Perspectives of Community Health Nurses: A Qualitative Study

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Abstract

Purpose: To explore community health nurses (CHNs)' perspectives on specific barriers and facilitators to successful hypertension management for older adults in rural communities.

Design: Descriptive qualitative study.

Method: Semi-structured interviews were conducted with 25 community health nurses who were responsible for hypertension management for older adults at health promoting hospitals in rural areas. Data were collected with a tape-recorder and transcribed verbatim. Data were analyzed using content analysis.

Main findings: The community health nurses identified barriers to successful hypertension management for older adults: 1) barriers from community health nurses (including work overload and lack of knowledge for hypertensive counseling) and 2) barriers from patients and family (including noncompliance to lifestyle modification, negative self-beliefs of patients, and avoid becoming a burden to family). Major facilitators were: 1) collaborative partnership (including creating partnerships with family and healthcare volunteers) and 2) information (including providing information about current health status).

Conclusion and recommendations: This study promotes understanding of community health nurses' perspective of facilitators and barriers to hypertension management for older adults in rural areas. However, successful implementation will be contingent upon addressing barriers such as balancing the community health nurses' workload and promoting patients' compliance to lifestyle changes. Further research is recommended to explore self-care management to control their blood pressure among older adults.

Keywords: barrier, community health nurses, facilitator, hypertension management, perspective

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อุปสรรคและสิ่งสนับสนุนความสำเร็จในการจัดการภาวะความดันโลหิตสูงในผู้สูงอายุ จากมุมมองของพยาบาลชุมชน : วิจัยเชิงคุณภาพ

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บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษามุมมองของพยาบาลชุมชนเกี่ยวกับอุปสรรคและปัจจัยเอื้อต่อความสำเร็จในการจัดการภาวะความดันโลหิตสูงสำหรับผู้สูงอายุในชุมชนชนบท

รูปแบบการวิจัย: การวิจัยเชิงคุณภาพแบบพรรณนา

วิธีดำเนินการวิจัย: การสัมภาษณ์แบบกึ่งโครงสร้างกับพยาบาลชุมชนจำนวน 25 คน ที่รับผิดชอบเกี่ยวกับการจัดการภาวะความดันโลหิตสูงในผู้สูงอายุ ณ โรงพยาบาลส่งเสริมสุขภาพตำบลในชุมชนชนบท เก็บรวบรวมข้อมูลโดยมีการบันทึกเสียงและถอดเทปบันทึกเสียงทุกการสัมภาษณ์ วิเคราะห์ข้อมูลด้วยการวิเคราะห์เชิงเนื้อหา

ผลการวิจัย: พยาบาลชุมชนระบุอุปสรรคต่อความสำเร็จในการจัดการภาวะความดันโลหิตสูงสำหรับผู้สูงอายุ คือ 1) อุปสรรคจากพยาบาลชุมชน ได้แก่ ภาระงานมาก และขาดความรู้ในการให้คำปรึกษาเกี่ยวกับภาวะความดันโลหิตสูง และ 2) อุปสรรคจากผู้ป่วยและครอบครัว ได้แก่ การไม่ปรับเปลี่ยนวิถีการดำเนินชีวิต ความเชื่อในทางลบของผู้ป่วย และหลีกเลี่ยงการเป็นภาระแก่ครอบครัว สำหรับสิ่งสนับสนุน คือ 1) หุ้นส่วนแห่งความร่วมมือ ได้แก่ การสร้างความร่วมมือกับครอบครัวและอาสาสมัครสาธารณสุข และ 2) ข้อมูล ได้แก่ การให้ข้อมูลเกี่ยวกับภาวะสุขภาพปัจจุบัน

สรุปและข้อเสนอแนะ: การศึกษานี้ทำให้เกิดความเข้าใจมุมมองของพยาบาลชุมชนเกี่ยวกับอุปสรรคและสิ่งสนับสนุนการต่อการจัดการภาวะความดันโลหิตสูงในผู้สูงอายุในชนบท อย่างไรก็ตามความสำเร็จของการจัดการภาวะความดันโลหิตสูงจะเกิดขึ้นหรือไม่นั้นขึ้นอยู่กับการแก้ไขอุปสรรค เช่น ความเหมาะสมของภาระงาน และการส่งเสริมการปรับเปลี่ยนวิถีชีวิตของผู้ป่วย การวิจัยครั้งต่อไปควรศึกษาการจัดการตนเองของผู้สูงอายุเพื่อควบคุมความดันโลหิต

คำสำคัญ: อุปสรรค พยาบาลชุมชน สิ่งสนับสนุน การจัดการภาวะความดันโลหิตสูง มุมมอง

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Background and Significance

Hypertension is one of the most important preventable contributors to morbidity and mortality in Thailand.[1] The prevalence of diagnosed hypertension among older adults increased from 31.7% in 2007 to 55.9% in 2010.[2] A government survey found that only 22.5% of Thai older adults with hypertension achieved blood pressure control.[3] Furthermore, previous studies found that older urban Thai patients had significantly better control of blood pressure level than those living in rural areas.[3-4] Rural hypertensive patients tended to receive fewer medications than their urban counterparts.[5] These studies suggest that older rural Thai patients are at greater risk for poor hypertension control and complication than older urban Thai patients.

In Thailand, the health services system is dominated by the public sector which includes health promoting hospitals, community hospitals and general/regional hospitals. The rural health system serving the majority of Thai citizens is consisted of community hospitals and health promoting hospitals. Each health promoting hospital has only one or two nurses who are responsible for the health promotion and disease management.[6] Nurses have been trained as nurse practitioners to work in the community as primary care providers. Thus, the nurses in rural areas are taking a vital role in hypertension management. Most of the time, Community Health Nurses (CHNs) are the ones who see and care the patients.[7]

According to the hypertension management, the CHNs have to play active roles and have to deal with the challenges in hypertension management. CHNs are responsible for promoting lifestyle changes among patients such as weight reduction, adoption of DASH (the Dietary Approach to Stop Hypertension) eating and physical activity as well as improving medication adherence.[8] They work collaboratively with other healthcare providers and patients' family members in order to control high blood pressure.[8] Even CHNs implement care plans for hypertensive patients; the rate of uncontrolled hypertension is still high among older rural Thai patients. Thus, there is the need to understand barriers and facilitators to successful hypertension management for older patients with hypertension from the perspectives of Thai CHNs.

The available literature in other countries has identified barriers of and facilitators to hypertension management, from both patients' and healthcare professionals' perspectives.[9-10] Patient-related barriers include patient characteristics, such as low medication adherence rates, lack of motivation for behavior change, lack of money for medication or for transportation to the hospital, missing clinic appointments, and patients' distrust in health care providers, adherence to medication, knowledge about hypertension, and family support.[11-12] Professional-related barriers include poor care coordination, lack of trust in clinical guidelines, and stress or burn-out.[12]

Examples system barriers include availability of care (e.g. lack of facilities and lack of consultation time), financing (e.g. lack of insurance and high cost of treatment), and cultural acceptability of available care (e.g. poor provider-patient communication and lack of attention to minorities).[12]

However, the literature review above comes from other countries where health care system and infrastructure are different from community health of Thailand. Moreover, as yet little is known about the barriers perceived by CHNs in hypertension management, and facilitators for successful hypertension management are not known, especially in rural areas where blood pressure control rates for older adults remain low. In Thailand, no studies have been conducted on this topic. Thus, this study will increase awareness of possible policy interventions that can support CHNs in providing better hypertension management.

Objective

The aim of this study was to explore Thai CHNs' perspective on barriers and facilitators to successful hypertension management for older adults who are living in rural community.

Methodology

This study employed a qualitative descriptive approach to understand Thai CHNs' perspective on barriers and facilitators in successful hypertension management for older adults.

Population and Sample

Purposive sampling was used to recruit CHNs who provided care in rural areas, Chiang Mai Province with the following inclusion criteria: (a) working at the health promoting hospitals in rural communities, and (b) providing hypertension care for older people with hypertension more than one year. Upon the permission of administrators of the health promoting hospitals, 33 CHNs were invited via email to participate in the study; and 25 of them agreed to be the study's subjects. The saturation of contents obtaining from the interviews was achieved when reaching at the 23^{th} - 25^{th} cases. As a result, the data collection was completed with the sample size of 25 CHNs.

Research Instruments

1) The researchers as the important instrument in conducting qualitative research.[13] Therefore, the researchers had to possess such qualifications as having knowledge and previous experience as well as skills in the process of observation and interview, and having effective communication skills. Being trained as research assistants in qualitative research and having more than 8 years of experience in qualitative data collection and analysis, both authors of this study conducted the interview by themselves. During the interview, the authors used their own phrasing for asking each question, additional probes or prompts, and comfortable and natural communication style. The authors were also instructed to interact with their participants as learners attempting to understand the participants' experiences and realities from their perspectives.

2) A demographic information sheet included data on age, gender, religion, education level, and work experience.

3) Semi-structured interviews were developed based on previous studies of barriers and facilitator to hypertension control in other populations[9-12,14] and facilitators and barriers to manage other chronic illnesses such as cardiovascular disease and diabetes.[15-16] The interview questions covered areas such as factors facilitating hypertension care work, experiences of facilitators and barriers in helping patients achieve treatment adherence, and how they collaborated with other professions to manage hypertension. Some examples of questions were "*please share some successes and challenges you have encountered in care for older people with hypertension"* and *"what do you think the main issues were in hypertension management with this patient and/or family?* To gather more in-depth information, "how did you do" or "please explain more" were used.

Ethical Considerations

The interviews were conducted after the study was approved by the ethical review board of Boromarajonani College of Nursing, Chiang Mai (BCNCT 02/2563). Both a verbal and written explanation were given to potential participants about the study purpose, the volunteer nature of interview participation, and the fact that there would be no disadvantage should they decline to participate. Participants were assured of anonymity and confidentially and informed that they could withdraw from the study at any time. Informed consent was obtained from all participants prior to conducting an interview. To differentiate between participants in the recordings and results, numbers were assigned and all identifying information was deleted.

Data Collection

The data collection was conducted from March 2020 to May 2020, at the health promoting hospitals in rural areas, Chiang Mai Province. Semi-structured interviews were conducted with mainly open-ended questions. The interview lasted 45-65 minutes and took place in a private room at health promoting hospitals. Telephone interviews were followed with 10 participants to clarify some information, to discuss the findings and to confirm that the authors' interpretation accurately reflected their experiences. Follow-up interviews lasted approximately 15-25 minutes. All interviews were tape-recorded and transcribed verbatim into written text by the authors. At the end of interviews, demographic characteristics were obtained from self-report.

Data Analysis

The authors transcribed the entire audio recording of each interview and data were analyzed using conventional content analysis.[17] Data analysis began through immersion in the data by reading the entire text of each transcript, to obtain an overall picture.

Then, each text was re-read several times identifying and marking whole words and sentences that described facilitators and barriers. Two authors (PT and JS) independently read the transcripts, noted important statements that emerged on repeated readings, and assigned preliminary codes. This preliminary coding scheme was discussed among two authors and revised. Then, the authors employed the resulting coding scheme to independently code the transcripts. Codes with similar content were grouped and all data within each code were re-examined by the two authors. Subsequent meetings resulted in agreement on coding for all 25 interview transcripts.

Methodological rigor was established through discussion during the research team meetings which included two authors and a peer reviewer. Audit trail was provided during data analysis. The audit trail included recorded raw data, the details of data analysis and some of the decisions that led to the findings. This record helped the peer reviewer to trace the textual sources of data back to the interpretations and the reverse. Moreover, member checking with 10 participants was conducted to ensure that the findings were consistent with the provided data. The resulting categories were challenged and validated through the corresponding direct quotes from participants.

Findings

There were 25 CHNs aged 24-40 years. The majority of participants were females (92%). In general, this study consisted of experienced CHNs, with a range of 2-16 years ($\overline{X}$ = 8.48) years of experience in care for older adults with hypertension in rural communities. All CHNs had earned a bachelor's degree in nursing and held a certification of current community health nurse practitioner or CHNP (Table 1).

Table 1: The demographic characteristics of participants (N = 25)

Characteristics	n (%)
Age (years)	
20-30	9 (36)
31-40	16 (64)
Work experience	
1-5	10 (40)
6-10	13 (52)
11-15	1 (4)
16-20	1 (4)
Education	
Bachelor	25 (100)
Certification	
Community Health Nurse Practitioner (CHNP)	25 (100)

Findings can be divided into 2 parts: 1) barriers and 2) facilitators to successful hypertension management for older adults.

Barriers to successful hypertension management for older adults

The barriers can be categorized into 2 categories: barriers from CHNs and barriers from patients and family.

1. Barriers from CHNs

CHNs considered that heavy workload challenged them to management time for hypertension management. Moreover, due to heavy workload and lack of time for training, CHNs lacked knowledge to provide consultations for older patients with hypertension.

1.1 *Work overload*

CHNs discussed the impact of work overload in relation to time management issues. This was the biggest barrier that restricted CHNs' care of older patients with hypertension. Time pressures and large workload undermine nurses' abilities to focus on hypertension management over to deliver care to their own satisfaction. A 37 years old participant said that:

"There needed to run this program (hypertension management). But you know? I felt it was still not good enough because I have to do several things…like prenatal and postnatal care, immunizations, and referrals that were urgent stuff. I needed to get it done before chronic care. I didn't have enough time for my chronic patients."(P2)

CHNs described insufficient time to do home visit for their older patients; and consultation times for appointment have decreased. Then, hypertension management guidelines were not able to be followed because they struggled with over workload and insufficient time to provide ongoing oversight of older adults with hypertension. As P7, 40 years old participant described: *"Normally, I did a home visit for my hypertensive patients every month. But now I have to deal with many issues at work. Even if I didn't have enough time, I tried to go to visit patient's home. Sometimes I could not go there but I had a chance to see my patients when they came here to pick up their medicine."*

1.2 *Lack of knowledge for hypertensive counseling*

CHNs agreed that hypertension training for nurses in the community was important to gain sufficient knowledge for hypertensive counseling and to develop effective strategies for promoting patient self-management. However, time limitations made continuing education opportunities for nurses difficult. Begin expected to provide the foundation for self-care and to help older adults with hypertension navigate daily decisions and activities, CHNS often felt unprepared and overwhelmed with other responsibilities. Most of them had not completed any hypertension training. P 18, a 38 years old said:

"It was difficult for me to take a short course training in care for older patients with chronic illness including hypertension. The training lasted 4 months and I could not attend. If I left to attend the course, there was nobody here to be responsible to do my work as we had only one nurse. Sometimes, I thought I lacked updated knowledge and skills to care for them as you know older people were different from adults or younger people."

2. Barriers from patients

CHNs summarized statements about patients-related barriers. They reflected that patients' non-compliance to lifestyle changes, patients' negative self-beliefs, and avoidance of being a burden to family were the important barriers that influenced hypertension management for older adults.

2.1 *Noncompliance to lifestyle modification*

Patient noncompliance to lifestyle modification was a significant patient-related barrier to successful hypertension management. CHNs described being generally unsuccessful in preventing serious complications among their older hypertensive patients, identifying patients' failure to appreciate the importance of self-management led to preventable complications. One specific problem, many mentioned, was the patient's failure to inform the person doing the cooking about dietary restrictions. In some instances, this was done deliberately, as older adults believed they chose not to change their diets. Older adults continued to eat a heart unhealthy food such as saturated and trans fats. A 35 years old participant mentioned that:

"*It was hard to tell them to change behavior. My patients do not change their eating habits. I tried to tell them but it did not work. They loved salty and fatty food" (P20)*

CHNs reflected that older adults did not follow medication treatment due to side effects, forgetfulness, and a perception that the medicine was not working. A 30-year-old participant said:

"Some older adults stopped to take medicine because of side effect and they believed that the medicine cannot treat this disease…but they did not tell me. Some of them forgot to take medications. I knew when I visited their homes." (P9)

2.2 *Negative self-beliefs of patients*

CHNs described that patients' beliefs about general health influenced hypertension management. They explained that older adults with hypertension still perceived themselves as healthy if they were able to work, especially older men. As P5, 38-year-old participant said:

"Sometimes, they (older men) told me that they were fine. They can go for farming…and did not have any problem. This made them unconcerned about their hypertension. Sometimes they missed appointments."

CHNs also described that the general use of non-biomedical remedies greatly influenced how older adults with hypertension treated their high

blood pressure. Herbal remedies were used independently and in combination with oral antihypertensive medications. Herbal remedies were more affordable, safe and some older adults believed they are more effective than pharmaceutical products at lowering blood pressure. A 40-year-old participant mentioned that:

"They used herbal remedies as suggested by their friends or others. When I asked them, they told me that they drank boiled roselle and ginger. They though it was safe for their health." (P22)

2.3 *Avoid becoming a burden to family*

In other instances, the CHNs found that older adults had fear of being a burden to their family members in preparing meals. The CHNs described that the older adults did not want to change type of food prepared and consumed of their family or older adults believed their diet would create more work related to food preparation. From these perspectives, when older adults were diagnosed with hypertension, they did not change eating habits. A 36-year-old participant described that:

"Some of them do not change their diets and their family prepared meals for them. And you know? They did not want their family to change cooking, like so much work. Most of them told me hundreds of times because their family had many things to do. They did not want to bother or burden their families. It was difficult for me to deal with this challenging issue." (P8)

Facilitator to successful hypertension management for older adults

The facilitators described in this study were classified into 2 categories: collaborative partnership and information.

1. Collaborative partnership

CHNs asserted that collaborative partnership involved the participation of family and healthcare volunteers. Involvement of these persons helped to improve patient engagement in self-care.

1.1 *Creating partnerships to improve treatment adherence*

CHNs explained that they created partnerships with family members and healthcare volunteers which can help to facilitate patient's adherence to treatment. CHNs addressed the reluctance of older adults to disturb family routine by involving patients' families in the dialogues about hypertension management. They communicated with older adult's family members such as wives and daughters. They provided information about how to control hypertension including meal preparation and medications when talking to the family members. Educating family members about how to prepare appropriate meals and gaining support from family members to remind the older adults to take their medication were strategies identified by CHNs to improve treatment adherence. As 28-year-old participant mentioned:

"When I did a home visit or when their family came here to pick up medicine for patients, I talked with them about how to care for hypertension and motivate their father to self-care. For example, I told his daughter about cooking since she cooked for him. Moreover, when a healthcare volunteer did a home visit, he reminded them what being educated by the CHNs later when I met her again, she just told me that she reduced salt when cooking and reminded her father to take his medicine." (P19)

CHNs emphasized the importance of support from family regarding successful hypertension self-management. A 39-years-old participant said:

"*In the beginning, when getting support from their family, they changed their eating habit, exercised, and took the medication as prescribed…even later their family did not remind them to do so, they can do by themselves." (P16)*

Due to all barriers that CHNs faced such as lack of time and heavy workload, community healthcare volunteers were the important persons that can support the nurses in deliver care. To provide optimal care for older hypertensive patients, community healthcare volunteers were trained to support older adults with hypertension. CHNs described how community healthcare volunteers were responsible for measuring blood pressure at home and reminding patients about treatment plans for uncontrolled hypertension patients including older adults. CHNs perceived that support from community healthcare volunteers helped monitor uncontrolled hypertensive patients because they reported some information back to CHNs such as blood pressure level that would help CHNs prioritize visits. As P11, 29-year-old participant described that:

"They helped me to check blood pressure at home and identify patients with uncontrolled blood pressure. When they went there, they asked patients about cooking, eating, and taking medications. If patients did not understand or did not follow the plan, they can suggest or remind patients. I thought they helped me a lot because sometimes I could not go there. But when they went there, I knew how the thing was going with my patients."

2. Information

CHNs described that information from healthcare provider regarding patients' health condition such as high blood pressure and blood cholesterol help to promote patients' adherence to treatment.

2.1 *Providing information about current health status to patients*

As many older adults seemed to lack appreciation for the importance of treatment adherence if they perceived themselves as healthy. CNHs provided information to older adults about their current health status and conditions including blood pressure level, cholesterol level, kidney function lab results, and presence of comorbidities (e.g. complications of hypertension and other health problems) at the follow-up appointment. CHNs believed that provision of clinical information to older adults

helped to motivate them to follow the treatment plans. For example, CHNs explained that when older adults knew that they had high blood cholesterol, they started to reduce fatty food. In some cases, if they were diagnosed of other chronic diseases such as diabetes, they were more concerned about taking medication and lifestyle changes. A 36-year-old participant mentioned that:

"I thought it would help to encourage my patients. Umm…I would tell you, one of my older adults, he never concerned about eating. He always ate fatty food. One day, when I told him that he had very high cholesterol and he knew that it made him be at risk for serious complications like stroke. After that, he reduced fatty food. Do you see it? Previously I told him for million times to reduce fatty food but he never tried because he had mildly elevated blood cholesterol." (P14)

Discussion

This study has contributed to our understanding of barriers and facilitators perceived by CHNs in hypertension management. Such barriers and facilitators were identified from the perspective of CHNs resulted in a structured overview of these issues. One major CHNs-related barrier we found was greater workload in the health promoting hospitals. Greater workload has created a dilemma for CHNs due to making them experienced lack of time. When CHNs experience demands on their services which exceed their available time, then rationing must occur.[18] Consequently, hypertension management was given lower priorities. Similar to another study,[19] also found that that environmental barrier to caring for chronic patient perceived by nurses was work overload and nurses considered that they really were not focusing on the patients as much as they should.

Another CHNs-related barrier is lacking of knowledge for hypertensive counseling. CHNs are forced to work with high nurse-to-patient ratios and also responsible for many tasks; they may lack of opportunity for further education for hypertension management. They lacked confidence and did not feel good about themselves because they did not have up-to-date knowledge of hypertension management. This is in line with the findings of study on barriers and facilitators to nurse management of hypertension, which found that nurses felt that they had not received sufficient training for them to feel fully confident while independently managing patients with hypertension.[20] Thus, there may be the possible to improve hypertension management through optimizing and balancing nurses' workloads. Furthermore, career development and continuing education must be provided for CHNs to have the skills and knowledge necessary to provide quality hypertension management.

Noncompliance to lifestyle modification, negative self-beliefs, and avoidance of becoming a

burden to family were perceived by CHNs as major patient-related barriers. CHNs thought that older adults viewed themselves as being healthy and did not engage in lifestyle modification. CHNs mentioned that the belief that herbal medicine was less harmful to body could cause uncontrolled blood pressure among older adults. This is in line with another study, which showed that self-belief about traditional herbal medication might have a negative impact on adherence to antihypertensive treatment.[21] Moreover, in our study, CHNs also believed that older adults tried to avoid becoming a burden of their family. For example, they did not prefer their family to change type of food for them to control blood pressure. This finding is similar to the results of a study among patients with chronic conditions, who did not adopt healthy eating behaviors due to the perception of double dilemma in disturbing family to prepare healthy food,[22] resulting in low degree of compliance with self-management. Foster partnership with family members and healthcare volunteers was perceived as an important facilitator in hypertension management. CHNs communicated regular with family about how to support and motivate older adults adhere to hypertension treatment including adherence to medication and lifestyle changes. Competent communication with families is an important component of delivering high-quality hypertension management.[23] Previous studies[23-24] also found that nurse-family partnership by each nurse and promote patients' adherence to treatment. Moreover, forming partnership with healthcare volunteer supported CHNs in doing home visits. The CHNs reflected that nurse-family partnership could fulfill the gap that older adults did not want to burden their family while partnership with healthcare volunteers solved the barrier partnership with healthcare volunteers solved the barrier of lacking of sufficient time for home visits by CHNs. In line with our results, a previous study among Nepal female community health volunteers reported that involving community health volunteers in hypertension management was a facilitator in hypertension treatment and control.[25] This suggests the need for an organizational model of care to develop partnership.

Another important facilitator perceived by our participants was providing information about current health status and health conditions to older adults. During home visit and appointment visit, CHNs talked to older patients and family regarding patients' current health status and health conditions, for example, weight and body mass index, blood cholesterol level, blood pressure level. This information influenced patients' health perception and health behavior. Previous study also showed that providing accurate information about patients' health conditions and their health status was associated with good treatment adherence.[26]

There are some limitations to this study. First, we recruited CHNs from rural health promoting hospitals in two cities; our findings may not be representative of the views of CHNs working in other settings. Additionally, the current study is primarily focused on hypertension care for older adults in Thailand. Our results can, however, inform and support similar future approaches to organize hypertension management in other countries as well.

Conclusion and Recommendations

This study has presented the perspectives of CHNs working in rural communities with providing hypertension management for older adults with hypertension. In doing so, it has highlighted key clinical and patient barriers and presented potential facilitators for the challenges that CHNs face. CHNs described heavy workload, lack of knowledge for hypertensive counseling, and patient-related barrier such as nonadherence to lifestyle modification as key barriers. However, to facilitate successful hypertension management for older adults with hypertension it is necessary to create collaborative partnership and provide information about patients' current health status.

This study provides additional information to implement the structures of partnership to support the development of an effective partnership. A further recommendation to form a partnership is that older adults with hypertension should be involved to improve treatment adherence. Ministry of Public Health has to adopt workload management method to balance CHNs' workload in the health promoting hospitals and move from characterizing barriers to designing strategies that address the rising dilemma of CNHs in hypertension management. Moreover, providing the opportunity to CHNs for education or hands-on training in hypertension management is important.

Further research should be conducted to explore how older adults perform self-care management to control their blood pressure.

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