



**12<sup>th</sup> AMER International Conference on Quality of Life**  
The Magellan Sutura Resort, Kota Kinabalu, Malaysia, 26-28 Jan 2024

## **Barriers to Health Self-Management among Older People with Hypertension and Diabetes in Institutions in China: A phenomenological study**

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### **Abstract**

The objective of this qualitative study is to explore the barriers to self-management among older people with hypertension and diabetes in institutional settings from the perspectives of both patients and health professionals in China. A qualitative phenomenological study used semi-structured face-to-face interviews involving eight older persons and ten health professionals. Thematic analysis revealed two main themes: 1) individual-related factors and 2) limited social support. Tailored interventions considering these multifaceted barriers can positively impact the quality of life and health outcomes for older individuals dealing with hypertension and diabetes in institutional settings.

**Keywords:** Barriers; Self-management; Hypertension; diabetes

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DOI: <https://doi.org/10.21834/e-bpj.v9i27.5608>

### **1.0 Introduction**

The convergence of hypertension and diabetes in older people has become a pivotal health concern. The ability to self-manage the conditions, such as taking medications and adhering to a healthy lifestyle, is critical. However, many older people encounter barriers to health self-management, which subsequently lead to severe health-related complications. Understanding the barriers to health self-management is pivotal in developing appropriate educational materials and prioritizing interventions that empower individuals to care for themselves better. The World Health Organization (WHO) report on aging and health (2015) emphasized the importance of addressing the specific needs of older individuals with chronic conditions like hypertension and diabetes, particularly in institutional settings. The characteristics of old age, institutional settings, heightened sensitivity, and vulnerability make it necessary to identify barriers aligned with culture and values among older people dealing with diabetes and hypertension.

The objective of this qualitative study is to explore the barriers to self-management among older people with hypertension and diabetes in institutional settings from the perspectives of both patients and health professionals in China. This study will inform the development of tailored educational materials and interventions based on the identified barriers, aiming to improve health outcomes.

### **2.0 Literature Review**

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DOI: <https://doi.org/10.21834/e-bpj.v9i27.5608>

Population ageing has emerged as one of the most significant global challenges, exhibiting notable acceleration. According to the findings of China's seventh census in 2020, there are 264 million individuals aged 60 and above, constituting 18.70% of the total population. China's Sixth Health Services Survey in 2018 indicated that 59.2% of older adults live with one or more chronic diseases. More than half of China's elderly individuals grapple with hypertension, while approximately 30% suffer from diabetes (Liu et al., 2013).

Hypertension and diabetes are widespread lifestyle diseases (De Boer et al., 2017), prompting domestic and international experts to advocate for enhanced health self-management as a primary strategy for prevention and treatment (Tabish, 2007). Extensive research supports that health self-management effectively controls blood pressure and blood glucose, preventing the onset and progression of various complications (Kennedy, 2007). Active patient engagement in self-care practices has been linked to reduced mortality and disability rates, improved quality of life, and decreased healthcare expenditures (Charchar et al., 2023). However, despite these recognized clinical advantages, studies indicate suboptimal patient compliance and engagement in health self-management activities in China (Wang et al., 2019). Concerns were raised at the fifth China Chronic Disease Conference (2015) regarding poor adherence among patients with chronic conditions.

Many older people encounter barriers to health self-management (Hill et al., 2022), which subsequently lead to severe health-related complications. The challenge of health self-management persists due to various impediments individuals face, and identifying these barriers becomes pivotal in enhancing adherence (Stiffler et al., 2014). Recognizing these obstacles is crucial to minimizing their impact and assisting patients in integrating self-care into their daily routines, aligning with World Health Organization (WHO) guidelines, and advocating strategies to overcome barriers (WHO, 2003). Although numerous qualitative studies have examined barriers to diabetes or hypertension management, few studies have explored barriers to health self-management among older individuals with hypertension and diabetes in institutions.

### 3.0 Methodology

This study utilizes qualitative phenomenological research design to thoroughly explore the barriers to health self-management among older individuals with hypertension and diabetes in Chinese institutions. This research design is suitable for exploring in-depth experience facing health self-management barriers (Neubauer et al., 2019). Semi-structured face-to-face interviews were conducted with OP and HP from Xinyu City, Jiangxi Province, China. Purposive sampling was employed to recruit participants, ensuring a comprehensive exploration of experiences and achieving data saturation (Saunders et al., 2017; Neubauer et al., 2019). Eligibility criteria for older participants included Chinese individuals aged 60 to 80 years, diagnosed with primary hypertension and type 2 diabetes mellitus (T2DM), residing in an elderly institution for at least six months, proficiency in Chinese, scoring 24 or higher on the Mini-Mental State Examination (MMSE), and independence in daily activities. Health professionals were required to have at least two years of experience in hospitals or elderly care institutions, be engaged in hypertension or diabetes rehabilitation and education for at least two years, and be proficient in Chinese.

Each participant underwent semi-structured interviews based on open-ended questionnaires, recorded digitally and lasting 45 to 60 minutes. The interviews were audio-recorded and transcribed verbatim. NVivo software facilitated the analysis process, employing thematic analysis outlined by Braun & Clarke (2006) in six phases. Measures were undertaken to ensure trustworthiness, such as peer debriefing, member checking, and consensus among researchers for resolving discrepancies. The quotes selected to represent the themes were translated from Chinese to English using forward and backward translation. The quotes in the English version were written in the findings to represent the themes accordingly. This study adhered to ethical guidelines, obtaining approval from the Research Ethics Committee of Universiti Teknologi MARA. Participants were provided with an explanation of the study's objectives and methodology, and informed consent was obtained from all involved.

### 4.0 Findings

Eight older people (OP), four males and four females, and ten health professionals (HP), consisting of 3 males and seven females, were interviewed. Thematic analysis of the interview transcripts revealed distinct barriers categorized into two master themes affecting health self-management among older individuals with hypertension and diabetes in institutions: 1) individual-related factors and 2) limited social support. Within each central theme, various subcategories were identified.

To preserve the anonymity of study participants, verbatim quotes used to support evidence in this section are labeled in terms of "OP" for older people or "HP" for health professionals. The resulting master themes and subthemes are summarized in Table 1. These themes highlight various personal and social factors that act as barriers to effective health self-management among older individuals facing hypertension and diabetes in institutional environments.

#### 4.1 Theme: Individual related

Table1: Summary of master themes and subthemes about barriers to health self-management among older people with hypertension and diabetes in institutions

Master Themes	Subthemes
individual related	low education level poor health knowledge and disease understanding cognitive challenges limited mobility

Limited social support

resistance to change  
Inadequate health education  
economic constraints  
limited resources access

This theme addressed individual-level factors that served as barriers to health self-management among older people with hypertension and diabetes in institutions. According to the participants, five subthemes emerged: low education level, poor health knowledge and disease understanding, cognitive challenges, limited mobility, and resistance to change.

#### 4.1.1 Low education level

Most study participants mentioned that low education is one of the biggest barriers. One participant of older people reported:

*"It is all right if I can understand; my education level is not very high. When I visited the outpatient clinic and saw a doctor, they gave me a pamphlet, but I could not understand it. Just showing me the leaflet isn't enough."* (OP6, male)

Another participant of health professional shared a similar view: *"Frankly speaking, the elderly individuals we are dealing with were generally born in the 1940s, 1950s, and 1960s. Overall, their education level is lower, and their health literacy is poorer, making health education more challenging. When we give them instructions, maybe less than 1/10 of what we tell them is absorbed."*(HP9, female).

A participant mentioned language and communication difficulties. *"I cannot speak Mandarin, and I do not understand what the doctor says. Each time I go to the hospital, my child takes me there."*(OP8, male)

#### 4.1.2 Poor health knowledge and disease understanding

Some participants indicated that most older people lack health knowledge. One participant mentioned:

*"Most patients lack specific knowledge about medicine and self-care. They have limited health knowledge and require improved health awareness and self-health management abilities through health education."*(HP3, male)

In addition, many participants described the challenges of poor understanding of disease. A participant of older people shared her experience: *"However, the main issue is the lack of understanding about these diseases and how to manage them. I'm uncertain about the appropriate daily salt intake and what to eat. Different people offer conflicting advice; some suggest eating pumpkin, while others advise against it. This confusion often leaves me uncertain about what to do."*(OP7, female)

A male participant further added to this: *"Despite having read a few books about hypertension and diabetes, I still lack a precise understanding of the diseases' progression and associated damage. While conversing with other elderly individuals, especially those with limited education, I have observed a substantial gap in their knowledge about these diseases."*(OP3, male)

Other participants of health professionals shared the same thoughts:

*"Many elderly people lack sufficient knowledge about the complications, symptoms, and potential risks associated with high blood pressure and diabetes. In the early stages of hypertension and high blood sugar, symptoms may not manifest, and patients might not experience any discomfort, leading them to believe there's no cause for concern. The primary reason for this perception is their limited understanding of diseases."*(HP2, male)

#### 4.1.3 Cognitive challenges

Several participants described cognitive barriers to health self-management among older individuals. A participant of an older person reported a decline in his memory: *"There are so many medications that I sometimes forget which ones I took or not."*(OP4, female)

Another participant health professional added, *"After each education session, the information tends to be effective for the first few days. However, after some time, older individuals may gradually forget the details, necessitating reminders. For older patients experiencing memory loss or cognitive decline, it is unrealistic to expect them to retain all the information you provide."*(HP4, female)

#### 4.1.4 Limited mobility

As age increases, the older person's physical mobility also decreases, ranging from joint problems to body pain and fatigue, which restricts them from pursuing regular physical activity. One participant said, *"Now, sports are challenging for me as I have issues with my legs; they start to hurt after walking for a while, and I can't walk much. I used to practice tai chi every day, but now my arm hurts, so I cannot do it anymore."*(OP1, female)

Some participants highlight fears related to potential falls, injuries, and hypoglycemia while exercising. A participant said, *"I didn't dare to exercise for a long time. Once I exercised for a long time, I felt flustered, sweated, and fainted."*(OP8, male). Another participant further added, underscoring a lack of knowledge about engaging in exercise scientifically and safely. *"Some elderly people are still afraid of falling, hypoglycemia, and injuries during exercise, and they do not know how to exercise scientifically."*(HP3, male)

#### 4.1.5 Resistance to change

Many participants described older individuals' challenges in adopting and maintaining dietary changes. One participant mentioned: *"I will try to consume less oil and salt, but I can't completely change my habits because I have been eating salty food since I was young. I can't eat something too bland, as I prefer sweet flavors. It's difficult for me to change this habit."*(OP5, female)

Another participant health professional further added, *"Some patients can't resist the temptation of food, and their blood sugar goes up, leading to elevated blood sugar levels complications. For example, an old patient in our department was hospitalized because of a diabetic foot and could not lower his blood sugar with medication. We opened his refrigerator, finding watermelon and a lot of desserts."*(HP6, female)

Some participants expressed erroneous views of older people, leading to reluctance to change. *"Many older people have not yet altered their beliefs, assuming they can consume larger quantities of high-nutritional foods, thinking it would benefit their bodies. Just like diet, some elderly individuals would not listen to the suggestion of eating less rice because they thought that if they eat less, they suffer."*(HP7, female)

Some participants discussed a fatalistic attitude among older people, believing that complications are inevitable despite medication or lifestyle changes. A participant expressed his view: *"I feel that at such an age, if I can't eat these things, can't eat those things, and thus nothing to eat. How long you can live depends on your fate. I do not want to live with too many restrictions; it would be boring. There is no way if you cannot quit. Smoke as you pleased."*(OP6, male)

Another participant added, *"Some older patients feel that it is the same whether they take medicine or not, and some complications will appear anyway. As a result, they lose confidence in controlling the disease, and sometimes even lose patience."*(HP1, female)

#### 4.2 Limited Social Support

Limited social support is another issue commonly appearing as one of the barriers to health self-management among older people with hypertension and diabetes. Three subthemes identified are Inadequate health education, economic constraints, and limited resource access.

##### 4.2.1 Inadequate health education

It is highlighted by inadequate health education experienced by both patients and healthcare professionals. A participant said: *"The doctor provides me with some precautions, but they are insufficient. Whenever I visit the hospital for medication, I desire to ask more questions. However, the doctor is often very busy and lacks time to listen to my concerns during the consultation."*(OP7, female)

Another participant also mentioned: *"The family does not understand these diseases. I mainly depend on listening to doctors and communicating with other patients. I feel that these supports are not enough, and I still don't know how to manage my body to be healthier. I hope to have more support and help."*(OP2, male)

Some health professionals expressed a similar view: *"The biggest problem with health education in hospitals is still the issue of time, especially in a tertiary hospital like ours, where there are numerous patients. Although each patient receives only a few minutes for education, it accumulates to hours. The medical staff are so busy that health education is hurried."* (HP9, male)

Another participant added, *"Health education for hospitalized patients might be better, but for outpatients, it's even worse because healthcare workers' clinical duties are too demanding. I believe that health education may still be too superficial and lacks specificity. For instance, providing only a leaflet or having brief discussions with patients is too superficial and does not genuinely alter the patient's health perceptions."* (HP5, female).

##### 4.2.2 Economic constraint

The economic constraint is another barrier that some participants mentioned. A participant expressed his economic barrier: *"In the past, there used to be a pharmacy outside the institution where blood sugar measurement cost two yuan, but it has not been open recently. Consequently, I have not measured my blood sugar in the past two months. The elderly institution now charges 9 yuan for a blood sugar test, which is too expensive for me since I do not have any income. I find it unaffordable to spend more than 2,000 yuan a year on doctor visits and medication."*(OP8, male)

Another participant further added: *"Many old adults are still more concerned about the cost of diseases, so they should be given more policy support in terms of cost so that elderly patients can get better treatment with less money."* (HP3, male)

##### 4.2.3 Limited resources access

Several participants highlighted the limited access to health resources as a significant barrier.

*"Many older people do not know how to access accurate health education, and some of us even lack the ability to acquire health knowledge independently. (OP1, female). Another participant also said: "Someone asked me to look for guidance on the Internet, but I didn't know how to do it or which information was correct."*(OP7, female)

Therefore, some elderly patients follow folk remedies and delay treatment. *"I listened to folk remedies from TV advertisements, and only when they did not work did my blood pressure rise. I realized that I needed to acquire health education knowledge through formal channels."*(OP2, male). Some elderly participants expressed a desire for a more personalized dietary approach to address their specific dietary needs in managing diabetes and hypertension. *"At present, the diet at the elderly institution lacks refinement, leaving us to decide what we can or cannot eat on our own. We hope to establish a specialized dietary section for individuals with diabetes and hypertension. Although the food here contains relatively less salt and moderate oil, I prefer a lighter option for health reasons. Therefore, I opt to wash the dishes."*(OP4, female)

## 5.0 Discussion

Several studies have noted a reverse relationship between educational attainment and the prognosis of diabetes and hypertension (De Labry Lima et al., 2017). This correlation has been linked to heightened challenges in comprehending verbal instructions and understanding medical instructions, dietary guidelines, or advice from healthcare providers (Sherifali et al., 2018). Addressing this barrier involves tailored approaches, such as simplified health information, clear communication strategies, and patient education initiatives, to bridge the gap and empower these individuals to manage their health conditions (Boakye et al., 2018).

Besides lower education levels, insufficient knowledge about health and diseases creates additional obstacles. This lack of understanding is sometimes due to a lack of access to reliable health information or misconceptions about managing these conditions (Schmidt et al., 2020). Empowering individuals with accurate, understandable, and actionable health information is crucial for enhancing their ability to self-manage chronic conditions and improve overall health outcomes (Nelson et al., 2018)

Cognitive decline may negatively affect self-management among older individuals with hypertension and diabetes (Tomlin & Sinclair, 2016). As cognitive functions diminish, individuals may encounter challenges in comprehending medical instructions and remembering complex medication regimens. To address this barrier, tailored interventions are crucial, including simplified health education materials employing visual aids, step-by-step guides, and easy-to-understand language (Aalbers et al., 2016). Engaging family members or caregivers in the management process and conducting regular follow-ups with healthcare providers are essential.

Physical limitations, ranging from joint issues to pain and fatigue, restrain older individuals from pursuing exercise routines (Lidegaard et al., 2016). Fears of falls, injuries, and concerns about hypoglycemia while exercising contribute to their reluctance. Educational initiatives focusing on safe exercise practices, including balance training and gradual progression, can alleviate fears and enhance confidence in physical activity (Korkiakangas et al., 2011).

Resistance to change poses a considerable barrier to effective health self-management among older individuals dealing with hypertension and diabetes (Ahola & Groop, 2013). Many older people face challenges in adopting dietary modifications due to ingrained taste preferences and misconceptions. Erroneous beliefs and fatalistic attitudes further impede efforts toward lifestyle changes (Ahola & Groop, 2013). Tailored educational programs can dispel misconceptions and emphasize the importance of dietary modifications, offering practical guidance on gradually adopting healthier eating habits (Sinclair et al., 2015). Furthermore, fostering a supportive environment that includes peer support groups or counseling sessions can address fatalistic attitudes and encourage positive behavior changes toward better health self-management.

Inadequate health education emerges as a substantial barrier. Although patient education is one of the important strategies, adequate investment and space must be made to achieve it (Abazari et al., 2012). Healthcare providers, constrained by time and heavy workloads, often offer rushed or superficial health education sessions, lacking follow-up or tailored strategies. This shortfall in educational quality results in inadequate support and comprehensive guidance for managing health conditions.

Economic constraints hinder the ability of older people to access essential healthcare services, medications, and regular check-ups, causing distress and compromising their health management (Mutalib et al., 2017). Implementing healthcare policies focused on reducing medical expenses and offering subsidies or financial assistance programs tailored to elderly individuals with chronic conditions can alleviate the financial burden (Weaver et al., 2014).

Limited access to health resources also presents a substantial obstacle among older individuals. Many older people need help in obtaining accurate health information, mainly through the Internet, due to limited digital literacy or access to reliable online resources (Song et al., 2010). It is necessary to improve more accessible channels of health resources, enhance educational resources tailored explicitly for older individuals, and implement specialized service options in institutional settings.

## 6.0 Conclusion & Recommendations

This study provides insight into the barriers affecting health self-management among older individuals grappling with hypertension and diabetes in institutional settings. Understanding these identified barriers is pivotal in shaping targeted interventions and policy initiatives to enhance health self-management. Initiatives that enhance health literacy, cognitive support programs, and mobility interventions can significantly improve individual engagement in self-care practices. Addressing resource limitations, providing comprehensive health education, and devising strategies to alleviate economic constraints are crucial in promoting a conducive environment for effective health management. Policymakers and healthcare providers should prioritize targeted interventions, policy initiatives, and innovative approaches to improve the quality of life and health outcomes for older individuals with hypertension and diabetes in institutional settings.

As a qualitative study, potential selection bias might exist. The study was conducted in a city with a middle-level economy in central China, potentially limiting its representation in varying geographic and socioeconomic contexts. Besides, the study did not explore older people's socioeconomic status and educational backgrounds. Future research should focus on exploring the barriers among older people in the community and the impact of socioeconomic status and educational backgrounds on health outcomes to effectively inform targeted interventions and policy initiatives.

## Acknowledgment

The authors thank the Faculty of Health Sciences, University Teknologi MARA (UiTM). The authors also would like to acknowledge older people and health professionals who have participated in this study.

## Paper Contribution to Related Field of Study

This paper will contribute to the field of health education and promotion.

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