Living healthier: a grounded theory of older adult with prehypertension

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Pulawit Thongtang
Living Healthier: A Grounded Theory of Older Adults With Prehypertension

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Abstract

Background: To prevent hypertension and long-term risk of cardiovascular events, older adults with prehypertension have to adhere to preventive behaviors. Little is known about the experience of adherence to preventive behavior among older adults with prehypertension.

Method: A constructivist grounded theory approach was used to develop a model explaining the process of adherence to preventive behavior among older adults with prehypertension living in Thailand. Participants were recruited using purposive and theoretical samplings from two primary health care units in Western Thailand. Semi-structured interviews were conducted with 26 participants. All interview data collection was recorded, transcribed, and analyzed simultaneously. Initial and focused coding, as well as constant comparison, were used to analyze the data.

Results: ‘Living healthier’ appeared as a core category describing the process of adherence. Three categories were identified in the process of adherence: (1) recognizing the danger, (2) fitting self-care strategies, and (3) managing for the long term. Creating connectedness to live longer seemed to intercede adherence behavior.

Conclusion: Adherence emerges from experiential learning when participants realized preventive behavior as the life source of living longer. These findings may help in the design of nursing interventions to increase trust in preventive behavior adherence and enhance awareness of prehypertension and its possible consequences. Family intervention in promoting adherence to preventive behavior among older adults with prehypertension should be developed as a desire to live longer with family is forceful.

Keywords: Adherence, Older adult, Prehypertension, Preventive behavior, Thailand

1. Introduction

Prehypertension is a health concern worldwide, including in Thailand [1]. People with prehypertension have a higher risk of developing hypertension [2]. Worldwide, the prevalence of prehypertension varies significantly across countries, ranging from 21.9% to 52%, particularly among older adults [1,3]. In Thailand, a higher prevalence of prehypertension was also found among older adults [4]. One of the most disruptive problems is older adults’ resistance to lifestyle modification recommendations, which can lead to hypertension [5].

As people with prehypertension ascribe meaning to their interactions with people and objectives as a social process [6], they choose, establish, and reconstruct the meaning of living with prehypertension. Although preventive behavior adherence positively impacts individuals’ health, older people with prehypertension can be adherent at a moderate level [7]. This means there is some room for oversight and faults. Adherence was complicated as people with prehypertension were accustomed to eating unhealthy food due to a characteristic of their careers and because time restrictions act as inhibitors [8]. Moreover, adherence has been associated with social support, and knowledge and the perception of prehypertension, health beliefs, and cultural values [9]. In the context of Thailand, previous studies found that preventive behavior adherence was also related to intention,
and attitude about preventive activities [10,11]. Due to past experiences, some people with prehypertension associate adherence to preventive behavior with approaching disability.

There are no studies related to people with prehypertension and the process of adherence to preventive behavior. Previous studies have focused on perspectives about adherence to preventive behavior and targeted populations such as adult persons [8,12]. Additionally, in the context of Thailand, older adults with prehypertension have been identified as a vulnerable population who are prone to adverse health outcomes due to poor adherence rates. Nevertheless, little is known about their experiences. As such, this study aimed to develop a theory regarding the process of adherence to preventive behaviors from the experience of older adults with prehypertension in Thailand and inform future studies developing interventions to improve adherence in this population.

2. Methodology

This study employed a constructivist grounded theory inspired by Charmaz [13] to understand preventive behavior adherence as a social process for theory development. This approach sought to understand a social phenomenon and build inductive analysis to construct realities through participants’ everyday life experiences. With its focus, a constructivist grounded theory was appropriate for this study exploring a process of adherence to preventive behavior in older people with hypertension that the interpretative insight engenders a theory merged into the participants’ words and experiences. This can help to deepen our understanding of actions and conditions contributing to adherence to preventive behavior.

A purposive sample of older adults with prehypertension living in urban and rural communities in the western part of Thailand was obtained. During normally scheduled visits, the nurses in health promotion hospitals verbally invited older adults to participate in the study. Then, the researcher contacted potential participants to explain the details of the study. The inclusion criteria included: (a) females and males, aged 60 years or older, (b) SBP of 130–139 mmHg and/or DBP 85–89 mmHg without antihypertensive drugs, and (c) the ability to communicate in Thai. During the data collection process, 3 participants who had been diagnosed with hypertension or the presence of a cognitive disorder were excluded. The participants were theoretically sampled [14], which indicated that notions that emerged during data analysis became

2.1. Data analysis

To analyze the data, the grounded theory analytical approach suggested by Charmaz [13] was adopted. The process of initial coding was attempted manually by the first researcher conducting line-by-line coding and the second researcher verified the coding schema. Later, focused coding was achieved by all researchers to synthesize and illuminate segments of data. Diagrams were created to illustrate the relationships between concepts and categories. During the analysis process, the researchers constantly compared transcripts with memos and field notes to abbreviate and label codes and categories. Lastly, the analysis of the categories focused on the core category.

2.2. Trustworthiness

To enhance trustworthiness, various strategies were used [15]. Credibility was achieved through member checking. The categories that emerged from the data were shared with participants to confirm if their experiences were expressed truthfully and if the developing theory was grounded in the data. Dependability and confirmability were enhanced by an audit trial. An audit trail was facilitated in organizing all data, including digital audio recordings, transcripts, field notes, memos, and
coding lists, and by obeying an audit trail of decisions made by the research team throughout the data collection and analysis. The constant comparing of data, field notes, and memos assisted in the checking process and helped in guiding the questions until all categories were theoretically saturated. Regarding transferability, a thick description was involved. The researchers provided dense participant background information to clearly show the transferability of data.

2.3. Ethical issue

Ethical approval was obtained from the Prachomklao College of Nursing, Phetchaburi Province Ethics Committee (PCKCN REC 11/2564), and the Phetchaburi Provincial Public Health Office (PBEC No.16/2564).

3. Results

Twenty-six older people participated in this study, most of whom were aged between 60 and 70 years; more than half of them were male (14 males, 12 females). The duration of prehypertension was between 6 months and 2 years. The sociodemographic characteristics of the participants’ are presented in Table 2.

The core category ‘living healthier’ illustrated the process of adherence to preventive behavior throughout experiential learning as older adults with prehypertension develop strategies for staying healthy. Living healthier emerged from three interconnected categories as follows: recognizing the danger, fitting self-care strategies, and managing for the long-term.

As theoretical underpinning of the experience of adherence to preventive behavior among older adults with prehypertension, living healthier required older adults with prehypertension recognized the danger of prehypertension. Participants understood what was happening and realized there was an effective way to control their condition. They learned and pursued the best self-care to manage their new reality. In this regard, when they believed and trusted that adherence to preventive behavior played a critical role in living longer and reducing the risk of hypertension and other serious conditions, fitting self-care strategies and maintaining levels of adherence in long term were the results. Fig. 1 provides a visual interpretation of the theory to describe how older adults with prehypertension are living healthier with preventive behavior.

4. Recognizing the danger

The initial step in the process of adherence began with the recognition that a health problem endangered the older adults’ life. The process of recognizing the danger included realizing the health risk, understanding and accepting prehypertension, and making connectedness to live longer.

<table>
<thead>
<tr>
<th>Open-ended questions</th>
<th>Probing questions</th>
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<tbody>
<tr>
<td>Could you tell me about what things have been like for you living with prehypertension?</td>
<td>Could you explain more about that?</td>
</tr>
<tr>
<td>How is the decision or inspiration to follow your healthcare provider’s advice going?</td>
<td>What is the reason to change behavior?</td>
</tr>
<tr>
<td>What are the steps to adhere to preventive behavior? How do you care for your health?</td>
<td>Why do you do that?</td>
</tr>
<tr>
<td>What is affecting changes in behavior to your life?</td>
<td>What is the outcome after changing behavior?</td>
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<table>
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<tr>
<th>Table 2. Participants’ characteristics.</th>
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<td>Characteristics</td>
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<tr>
<td>Gender</td>
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<td>Male</td>
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<td>Female</td>
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<td>Age range (Years)</td>
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<td>60–65</td>
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<td>66–70</td>
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<td>Marital status</td>
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<tr>
<td>Married</td>
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<td>Widow</td>
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<td>Educational level</td>
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<td>Primary school</td>
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<td>Secondary school</td>
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<td>Employment status</td>
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<td>Agriculture</td>
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<td>Self employed</td>
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<td>House work</td>
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<tr>
<td>Income (Bath)</td>
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<tr>
<td>1,000–5000</td>
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<tr>
<td>5,000–10,000</td>
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<tr>
<td>Duration of prehypertension</td>
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<tr>
<td>6 months–1 year</td>
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<tr>
<td>1.1–2 years</td>
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<tr>
<td>Comorbidity</td>
</tr>
<tr>
<td>None</td>
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<tr>
<td>Hyperlipidemia</td>
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<tr>
<td>Smoking</td>
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<td>No</td>
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<tr>
<td>Yes</td>
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<td>Stopped smoking</td>
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<tr>
<td>Drinking</td>
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<tr>
<td>No</td>
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<tr>
<td>Yes</td>
</tr>
<tr>
<td>Stopped drinking</td>
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</table>

Table 1. Example of interview question.
4.1. Realizing the health risk

Many participants expressed their surprise at discovering that they had prehypertension following routine checkups, while a few others knew their health risk intentionally. Some participants also described their personal health risk factors such as high cholesterol, obesity, and an unhealthy lifestyle. After the time of hearing the prehypertension diagnosis, the participants realized that this condition increased the risk of developing other dangerous health problems.

“A nurse checked my blood pressure and found that it was quite high. It was dangerous since I had high cholesterol. I might get other diseases.” (P#14)

4.2. Understanding and accepting prehypertension

Some participants described that they thought prehypertension could result in negative health conditions such as hypertension and heart disease, while others lacked awareness of possible serious complications. However, after receiving information about prehypertension, the participants had a better understanding. They recognized that prehypertension was dangerous and adversely affected normal life since they were more likely to develop hypertension.

“… before this I just didn’t care about whether I had high blood pressure or not. Now that I have become at risk … because my blood pressure was quite high. It can lead to hypertension and others … such as stroke.” (P#6)

4.3. Creating connectedness to live longer

After accepting the diagnosis and learning that preventive behavior was the main choice, older adults with prehypertension recognized the association between adhering to preventive behavior and living longer with their families. They realized that preventive behavior adherence could help them to
control their blood pressure that is linked to a long and healthy life; thus, this understanding shaped their consequent actions.

"... a doctor said that if I wanted longer life, I have to reduce my salty diet ... I believed him, it might be good and help me to live longer with my family." (P#11)

Participants who recognized that adherence to preventive behavior was essential to help them live a longer life showed more adherent behavior whereas those who failed to establish this idea showed less adherent behavior. Participants who made the connection also believed that they had an important role in the process of adherence to preventive behavior. The strategies for improving adherence to preventive behavior were categorized into two steps including fitting self-care strategies and managing for the long-term.

5. Fitting self-care strategies

Older adults with prehypertension who accepted the diagnosis realized the relationship between preventive behavior adherence and living longer learned about self-care. They learned how to change a series of behaviors by reviewing behaviors and risks, learning to care by trial and error, and pursuing the best self-care.

5.1. Reviewing behaviors and risks

When older adults believed and trusted in adherence to preventive behavior, they started to assess their behaviors and risks because it helped them to understand what behavior they needed to change. Many participants reflected that their behaviors needed to be improved for lowering their risk to develop hypertension and other conditions such as eating salty food and a lack of exercise.

“I learned from my niece and doctor that because I liked to eat high sodium diets, my blood pressure got high. I better avoid that food if I do not want to get hypertension.” (P#25)

Moreover, some participants with higher education levels described that they sought information about how they could control blood pressure from reliable sources such as social media and healthcare providers. Some of them searched for information about herbal medicines to lower blood pressure on the internet and confirmed the information by asking the nurse before purchasing herbal medicines.

“I searched on Google and then I asked the nurse to confirm that it was safe for me and I bought garlic oil capsules from the drugstore and took them for several months.” (P#17)

5.2. Learning to care by trial and error

When older adults assessed and recognized their risky behavior, some participants started to learn self-care from their own experiences by trial and error. They attempted to find the most suitable and practical ways to take care of themselves. In this step, participants learned the ways that worked for them to integrate into their daily life.

“I tried many food control plans on my own for several months ... then I know from my latest BP checking that if I cut off pickled vegetables from my main meal, my BP goes well.” (P#21)

Some participants used traditional therapy because they thought it could help to lower their blood pressure. Moreover, they believed that traditional therapy was safe as it was acquired from natural resources. They learned from other people in their village and tried to use traditional herbal remedies such as the use of garlic and ginger but failure to achieve a good outcome motivated them to discontinue using.

“I added some garlic to my meals because my friend told me that it could reduce my blood pressure. I ate for a couple of months, but my blood pressure remained high. Then I quit eating.” (P#9)

5.3. Pursuing the best self-care

After trial and error, participants adopted self-care strategies that could provide them with the best benefit in hypertension prevention, did not disturb their daily lives, and that they could enjoy themselves on a regular basis. Self-care strategies that they added to their daily routine included changing eating habits, working out, quitting tobacco, reducing alcohol consumption as well as managing stress.

“I tried to exercise ... I loved cycling, but I couldn’t because I hurt my knees, so I walked around my house ... It was good.” (P#12)

“I told my son and grandchildren that I did not want to go to the temple. I chose to pray before going to bed because this helped me to relax ...” (P#26)
Engaging in self-care was managed concurrently with good advice and support from family members as well as fear of hypertension complications. Many participants described that fear of stroke and other complications continue to encourage them to keep maintaining preventive behaviors.

“I did not want to be paralyzed … I had started reducing salty food. It was difficult but I had to do it because it helped prevent a stroke …” (P#7)

Older adults tried to adopt self-care strategies in a way that fitted their situations. During the process of fitting self-care strategies, they realized their abilities to manage risky behavior that helped to increase their chances of achieving healthier lives.

6. Managing for the long-term

Once older adults learned by practicing self-care to prevent risk and enhance their health, they proceeded into the final step. Throughout this step, they were challenged with finding ways to constantly sustain adherence to preventive behavior in the long term. This step included obtaining wellness, holding guardedness, and keeping a positive mindset on adherence.

6.1. Obtaining wellness

By engaging in preventive behavior, participants explained that their health outcomes were improved such as blood cholesterol and blood pressure level. Furthermore, their worry about the possible serious complications of prehypertension was decreased. They expressed that maintaining wellness can be most affected by continued adherence to preventive behavior.

“My blood pressure was lower and blood cholesterol was decreased … I felt good. This meant I may not get hypertension. So, I think I need to keep taking good care of myself because it can help to lower my blood pressure and keep it down.” (P#8)

6.2. Holding guardedness

Participants described that the recommendations from healthcare providers about healthy behavior were important to follow accurately. They felt safe when following the recommendations as it gave them the best chance for health.

“For me, it was important to do as the nurses told to do. Because I did not know that it went wrong or right to do. If I had some questions, I just asked them to guarantee before taking good care.” (P#13)

Before taking good care of themselves, when they had some questions about preventive behavior, they reported asking healthcare providers to confirm that the behavior was acted upon appropriately.

“I wanted to do other exercises, so I ask the nurse to advise on what types of exercise were right for them.” (P#8)

6.3. Keeping a positive mindset on adherence

At the initial step of adhering to preventive behavior, most participants described it as difficult to manage their risky behavior. Then, they were able to adapt to the new reality because they considered how to live a healthier life with prehypertension. They reflected on the acceptance of preventive behavior adherence as it was the price to pay to live healthier. This positive mindset encouraged them to perform a healthy lifestyle.

“I felt good now, it helped to reduce my blood cholesterol. It made me healthier. The nurse told me that if I changed my behavior, the chance would come to get rid of blood fats.” (P#24)

Additionally, older adults with prehypertension recognized adherence to preventive behavior as a life source to manage with their health condition. They reflected that their health and their ability to live healthier rested on their adherence.

“Sometimes I wanted to eat pork leg stew, but I refrained from eating it. I had to try my best because it helped to lead to a healthier life.” (P#16)

7. Discussion

To our knowledge, this is the first research to illustrate the process of adherence to preventive behavior among older people with prehypertension. As participants voices, they focus on ‘living healthier’ to continue living with prehypertension. The adherence behavior of older adults with prehypertension is influenced by the connection between preventive behavior and living longer. Participants who realized the significance of adherence to preventive behavior took steps to improve and maintain their adherence. However, some participants lacked recognition of the importance of preventive behavior adherence; they were less likely to be adherent and steady.
Understanding and accepting the diagnosis of prehypertension can promote adherence to preventive behavior. This finding is congruent with other studies [15,16] that suggested the perception and acceptance of disease reflected the motivation to change lifestyle and follow the treatment plan. In this study, older adults showed that they were thinking about and understood their risk for high blood pressure, such as hyperlipidemia and eating behavior. When they realized that they were at risk of developing hypertension and other conditions, they reframed their lifestyle behaviors from unhealthy to healthy, which is in accordance with a previous study [17].

This study highlights the importance of belief and trust in adherence to preventive behavior that leads to healthy living and living longer among participants. This idea made older adults start reviewing and learning to modify their own risk behaviors. Trust about the value of adherence to preventive behavior is closely connected to the understanding of preventive behavior [18]. Participants in this study who realized the importance of behavior change for prehypertension completely recognized trust in the value of adherence to preventive behavior. Remarkably, this study suggests that trust can motivate adherence to preventive behaviors, in line with previous studies [19].

Interestingly, learning by trial and error was the best strategy to solve the problem for older adults with prehypertension in this study. They started to learn by assessing their risk behavior and determining what was the best method to obtain the desired outcome by recognizing and removing failures through various strategies. They took many forms of self-care and then they pursued the best forms of self-care that they could perform in a way appropriate to their everyday life. A similar pattern of results was obtained in another study [12], which found that people with prehypertension recognized adherence to preventive behavior with a sense of satisfaction and pleasure. Thus, applying trial-and-error helped participants to understand themselves and determine the best self-care strategy in the long term as they were willing to attempt new things and make mistakes.

This study suggests that life without hypertension was an outcome of the living healthier process. Throughout this process, the important factor influencing the older adults to learn and perform self-care were family support and a fear of hypertension and its complications. Participants who explained more preventive behavior adherence were among the older adults with an awareness of complications of hypertension and appropriate family support such as seeking and providing helpful information to older adults about how their condition was controlled. This finding is consistent with research showing that fear of the consequences of the disease and family support enabled controlling diet and adhering to treatment [20]. Furthermore, older adults with prehypertension who described more adherence to preventive behavior had higher levels of education. Thus, it was possible that socioeconomic status may play a role in achieving access to and understanding information about the importance of preventive behavior in older adults with prehypertension as well as the strategies to mitigate their risk [21].

8. Limitations

The sample was recruited from only two health-promoting hospitals in the West of Thailand and the nature of the qualitative study, its relatively small sample size, thus the findings may not be generalizable to other contexts or the large population of older adults with prehypertension. To apply these findings more generally should be approached with caution. Moreover, face-to-face interview contexts might have motivated the participants to offer desirable responses, which could have biased some of their answers. Thus, to diminish this possibility, a reflective interviewing approach was used for the participants to deliberate their answers.

9. Conclusions

Living healthier was found to be a core category in the process of adherence to preventive behavior among older adults with prehypertension. Adherence emerged over experimental learning when older adults recognized prehypertension was a significant risk. There were crucial cognitive processes to assess preventive behavior in terms of acknowledging the advantages of preventive behavior as their life source to live longer and control prehypertension and employing self-care strategies by fitting self-care strategies linked to adherence. Consistent adherence to preventive behavior in the long term could be managed through a positive mindset on adherence and maintaining high levels of vigilance.

10. Recommendations

Our findings suggest that in order to maximize adherence, interventions should be created to improve individual trust in preventive behavior and increase older adults’ awareness of prehypertension and its possible serious problems. As the desire to live
longer with their family is powerful, nurses should organize and test effective family interventions to promote adherence to preventive behavior. Further research is required to explore how the contextual factors play a key role in adherence, and to verify or revise the theoretical model explaining the process of adherence to preventive behavior among older adults with prehypertension.

Conflict of interest

None.

Acknowledgments

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References


