

ประสบการณ์ของผู้ดูแลในการดูแลสุขภาพผู้สูงอายุความดันโลหิตสูง Caregivers' Experiences in Caring for the Health of Hypertensive Elderly Patients

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บทคัดย่อ

การวิจัยเชิงคุณภาพแบบปรากฏการณ์วิทยานี้มีวัตถุประสงค์เพื่อศึกษาประสบการณ์ของผู้ดูแลในการดูแลสุขภาพผู้สูงอายุความดันโลหิตสูง ผู้ให้ข้อมูล จำนวน 30 คน ได้รับการคัดเลือกแบบเจาะจง ตามเกณฑ์คุณสมบัติที่กำหนด เครื่องมือที่ใช้ในการวิจัย คือ แบบสัมภาษณ์กึ่งโครงสร้าง วิเคราะห์ข้อมูลด้วยการวิเคราะห์เนื้อหา

ผลการศึกษาพบว่าประสบการณ์ของผู้ดูแลในการดูแลสุขภาพผู้สูงอายุความดันโลหิตสูง ประกอบด้วย 1) วิธีการในการดูแล 2) ปัญหาและอุปสรรคในการดูแลสุขภาพ 3) ความต้องการช่วยเหลือในการดูแล และ 4) ความสามารถของตนในการดูแลสุขภาพผู้สูงอายุความดันโลหิตสูง ซึ่งบุคคลในครอบครัวที่เป็นผู้ดูแลผู้สูงอายุมีวิธีการดูแลสุขภาพผู้สูงอายุความดันโลหิตสูงในแบบพื้นฐานตามคำแนะนำของแพทย์ ประกอบด้วย ด้านอาหาร ด้านการรับประทานยา ด้านการออกกำลังกายและการไปพบแพทย์ตามนัด ปัญหาและอุปสรรคต่อการดูแลสุขภาพผู้สูงอายุความดันโลหิตสูง ได้แก่ 1) การไม่ปฏิบัติตามแนวทางการดูแลของแพทย์สั่ง 2) สถานภาพครอบครัวทางด้านเศรษฐกิจ 3) ระบบการให้บริการดูแลสุขภาพของหน่วยงานภาครัฐที่เกี่ยวข้อง 4) ค่าใช้จ่ายระหว่างการเดินทางไปใช้บริการ ความต้องการให้หน่วยงานภาครัฐหรือภาคเอกชนในการสนับสนุนการดูแลสุขภาพผู้สูงอายุความดันโลหิตสูง ได้แก่ 1) ด้านการเข้าถึงการให้บริการของโรงพยาบาลหรือหน่วยส่งเสริมสุขภาพที่เกี่ยวข้อง 2) ระบบการให้บริการของโรงพยาบาลหรือหน่วยส่งเสริมสุขภาพที่เกี่ยวข้อง 3) การให้ความรู้และทักษะที่เกี่ยวข้องในการดูแลผู้สูงอายุที่เป็นผู้ป่วยความดันโลหิตสูง ส่วนความสามารถของตนในการ

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ดูแลสุขภาพผู้สูงอายุความดันโลหิตสูง พบว่าบุคคลในครอบครัวที่เป็นผู้ดูแลผู้สูงอายุมีความสามารถดูแลสุขภาพผู้สูงอายุได้ตามศักยภาพและความสามารถที่มีตามคำแนะนำจากแพทย์ ที่ได้จากการพากผู้สูงอายุไปพบแพทย์ตามนัดและรู้สึกดีใจที่ได้ดูแล ได้ตอบแทนบุญคุณ ถึงแม่บางครั้งจะเหนื่อยและท้อในการดูแลผู้สูงอายุ

คำสำคัญ: ผู้ดูแล, ผู้สูงอายุ, ความดันโลหิตสูง, ประสบการณ์การดูแล

ABSTRACT

This study was qualitative phenomenological research. The purpose of this study focused on exploring the experiences of family caregivers caring for the elderly with hypertension by using purposive sampling to select 30 key informants based on the inclusion criteria. The research tools were semi-structured interview forms. The data were analyzed with content analysis.

Results were found that: The caregivers' experiences caring for the health of the elderly with hypertension consisted of; 1. caring methods, 2. problems and obstacles in health care, 3. the needs for assistance, and 4. their ability to care for the health of elderly with hypertension. The family caregivers in this study provided care for the elderly with hypertension in four dimensions: food, medication, exercise, and doctor visits, using basic procedures and recommendations from the doctors. The family caregivers in this study stated that there had four problems and obstacles: 1. non-adherence, 2. economic family status, 3. Health Service System and 4. travel expenses. The need for government or private sector agencies to support healthcare for the elderly with hypertension consisted of; 1. easy to access Health Service System, 2. hospital or related health promotion unit service systems, and 3. Up skills and knowledge in caring for hypertensive elderly patients. The ability to care for the health of elderly with hypertension found that the family caregivers could care for the elderly with hypertension according to their potential and the doctor's recommendations that they took them to saw a doctor as appointed. The caregivers were happy for taking care their elderly parents with hypertension. Even though sometimes, it was

tiring and discouraging to take care of the elderly.

Keywords: Caregivers, The elderly, Hypertension, Caregiving experiences

Introduction

Thailand is a developing country with a continuing increase in hypertensive patients. Hypertension is one of the chronic non-communicable diseases that are a major problem in every country. Hypertension affects up to a billion adults in developing countries, and the number is anticipated to climb even more. Developing countries account for two-thirds of all hypertension cases. One in every three people worldwide has high blood pressure. Furthermore, one in every three adults in Southeast Asia suffers from hypertension. It is estimated that in 2025, 1.56 billion adults worldwide will have hypertension (World Health Organization, 2013). Hypertension is a disease that causes abnormalities in various organs and body systems, such as the heart, the eyes, kidneys, blood vessels, and the brain. It is also one of the leading causes of premature death throughout the world. Each year, this disease kills approximately 8 million adults globally. In Southeast Asia, nearly 1.5 million people die annually from hypertension. Hypertension is also responsible for nearly 50 percent of deaths related to stroke, paralysis, and heart disease (World Health Organization, 2013).

According to Thailand's Sixth National Health Examination Survey (2019–2020), the prevalence of hypertension among the male and female elderly aged 60-69 years was 53.5% and 56.2%, respectively. The prevalence increased with age, reaching 74.7% and 78.5% among the male and female elderly aged over 80 years. The prevalence of hypertension among the elderly has continually increased compared to the survey results in 2009 and 2014. When considering diseases and conditions that are risk factors for cardiovascular disease among the elderly, it was found that the prevalence of hypertension was at 60.7%, diabetes was at 20.4%, obesity was at 38.4%, abdominal obesity was at 46.5%, and metabolic syndrome was at 39.81% (Aekplakorn et al., 2021).

Ratchaburi provincial statistical office reported in 2022 found that the population of 865,807 people. It had 178,894 of elderly people in the percent of 20.66 in the west region. When considered in the west region found that Nakornpathom, Ratchaburi and Kanchanaburi found the high number of elderly patients in the percent of 49.22 per 100,000 of populations (Ratchaburi Provincial Public Health Office, 2022)

Social support from family members is associated with patients' eating and exercising for blood pressure control (Nunyapruk et al., 2019). The family is regarded as a key factor affecting blood pressure control in elderly patients since it is the primary institution for elderly care in Thai society. Family members, including spouses, children, grandchildren, and other relatives that live in the same household as the elderly and have the responsibility to take care of them, are known as family caregivers and are considered an important network for elderly care. Family-centered elderly care has a positive impact on the elderly's quality of life because it is an approach in which caregivers provide elderly care with love, compassion, and understanding (Jooprempee & Tabootwong, 2022). If caregivers understand the nature of elderly people and are knowledgeable about caring methods, it will lead to the elderly's healthy physical and mental conditions (Rattanaraj et al., 2020).

This study sought to investigate caregivers' experiences in caring for the health of hypertensive elderly patients in order to acquire a better understanding of the actual challenges encountered when caring for the elderly with hypertension from the perspective of family caregivers. The findings of this study can be used to create guidelines for increasing the capacity of family caregivers in elderly care and hypertension management in the future. The family caregivers were a key mechanism in driving family members to have strength and self-care. (Friedman, 2003)

Objectives

The purpose of this study was to explore the experiences of family caregivers caring for the elderly with hypertension.

Materials and methods

This qualitative research focused on exploring the experiences of family caregivers caring for the elderly with hypertension in Ratchaburi Province. The data collection was carried out between January and February 2024.

The key informants were 30 caregivers of the elderly, which was a sufficient number to reach data saturation, where enough data were collected and data collection yields no new further insights (Mason, 2010; Beck, 2020). There were three selection criteria: 1) the key informants had to be family caregivers aged at least 20 years; 2) they had to be able to communicate in Thai; and 3) they had to be willing to be interviewed.

Data collection comprised the following four steps:

1. After receiving approval from the Human Ethics Committee of Burapha University, the research team submitted a letter to the Ratchaburi Provincial Public Health Office to request permission for data collection.

2. The research team asked for cooperation from the director of the Subdistrict Health Promoting Hospital and coordinated with village health volunteers to visit targeted family caregivers at their homes and to build positive relationships with their families before selecting key informants based on the inclusion criteria.

3. The research team introduced themselves, greeted the selected key informants to establish rapport and trust, and then explained research-related information to them.

4. After the key informants gave written consent to participate in the study, the research team began collecting data by asking questions about personal information, followed by semi-structured interview questions concerning caregiving experiences. These semi-structured interview questions were created based on the literature review and were examined by five experts. Their content validity was confirmed in the range of .60-.80, indicating that they were suitable for use in this study. The duration of each interview was approximately 45-60 minutes. An audio recording was made during the interview. After each interview, the research team captured all of the relevant information about the key informants' facial expressions, gestures, behaviors, and emotions.

Ethical approval

This study was carried out under human subject protection guidelines and approved by the Human Ethics Committee of Burapha University, with approval no. IRB3-127/2566 dated December 24, 2023. The authors described the research objectives, methods, data collection procedures, and benefits to the participants and asked for their written consent before conducting the research

Data analysis

The research team transcribed the recorded interviews word-by-word before classifying and analyzing the results using qualitative content analysis. In order to ensure that the key informants' responses and feelings were properly understood, their statements were quoted while describing the research results. Furthermore, the research team verified the reliability of the obtained data by 1) asking for feedback from the key informants before ending each interview; 2) using purposive sampling to select the key informants in order to gain information that could be generalized to elderly caregivers in Ratchaburi Province; and 3) having experts in qualitative research and elderly hypertension examine the validity of the theoretical concepts and the accuracy of the data transcription and coding.

Results

The research results included the personal data of the caregivers caring for the elderly with hypertension and their caregiving experiences. The details were as follows.

Personal data

According to the data collection of 30 caregivers, the key informants consisted of 28 females (93.33%) and 2 males (6.67%). Most of them were in the age range of 35-55 years, with an average age of 44. They mostly worked as farmers ($n = 20$, 66.67%), followed by general workers ($n = 13$, 43.33%), and merchants ($n = 7$, 23.33%). Twenty-seven of them were children of the elderly with hypertension (90%), while three were grandchildren (10%).

Experiences in caring for the elderly with hypertension

The key informants gave information about their caregiving experiences in four main areas: 1) caring methods; 2) problems and obstacles; 3) the needs for assistance; and 4) the abilities to care for hypertensive elderly patients.

1. Methods of caring for the elderly with hypertension.

The family caregivers in this study provided care for the elderly with hypertension in four dimensions: food, medication, exercise, and doctor visits, using basic procedures and recommendations from doctors. The details were described below.

1.1 Food: The caregivers prepared food for the elderly with hypertension as normal, focusing on vegetables and boiled and steamed food while reducing greasy, sugary, and salty items. They did prepare spicy meals on occasion since they had to feed other family members in the large family as well. The key informants provided more details as follows:

“I take care of Grandma as per the doctor’s advice, such as preparing boiled and steamed food, not letting her eat oily, salty, and sweet food, making her take medicine on time, and encouraging her to exercise” (a 42-year-old female).

“I follow the doctor’s advice, avoiding salty and sweet food and focusing on vegetables. I cook for the family myself, but sometimes I make spicy food because there are many people in the family” (a 39-year-old female).

1.2 Medication: The caregivers prepared medicine for the elderly and ensured that they took it on time, as ordered by the doctor.

“I take care of general stuff, like taking him to the doctor and preparing the medicine. He is old but still able to rely on himself” (a 46-year-old female).

1.3 Exercise: The caregivers took care of the elderly during exercise and daily activities, such as housework and gardening.

“For exercise, Grandma will walk to the other children’s houses or the temple. Sometimes she helps me grow vegetables for exercise” (a 46-year-old female).

1.4 Doctor visits: The caregivers personally escorted the elderly to doctor appointments. If they were unable to go, they would ask some relatives to go instead.

“I normally take care of her, including food and medicine, and take her to the doctor as scheduled” (a 35-year-old female).

“I accompany my mother on doctor visits. If I cannot go, I will arrange for someone else to go instead. The doctor usually advises about medication” (a 48-year-old female).

2. Problems and obstacles in providing care for the elderly with hypertension.

The family caregivers in this study stated that there were four problems and obstacles: 1) noncompliance with the doctor’s guidelines; 2) the family’s economic status; 3) the healthcare service systems of related government agencies; and 4) travel expenses.

2.1 Noncompliance with the doctor’s guidelines

It was found that the elderly did not follow the doctor’s guidelines, such as eating, because they were addicted to the same behavior they continued to eat salty and sweet food because they believed that it stimulated their hunger. Sometimes they quit taking their medicine when they felt better or raised their dosage.

“He does not always do what the doctor tells him. He thinks that the forbidden fruit is always the sweetest. He will get angry if I talk too much. I do not want him to have any complications. I want him to stay with us for a long time. I do not want him to be a bedridden patient” (a 39-year-old female).

“He does not follow what we say or recommend. He is sometimes upset. We want him to recover and not take too much medicine, so we scold him at times” (a 42-year-old female).

“I am unable to be with her all the time because I have to work. I prepare a lunch for her, but she likes to add more seasoning. I usually make her mild soup, but she says it is not tasty” (a 49-year-old female).

“The doctor said she had to finish all the medicine. However, sometimes Grandma stops taking medicine when she feels better. She does not listen to what I say. I do not know what to do. Although she seems to be fine, the doctor advised that it was not good to stop medicine” (a 45-year-old female).

2.2 The family's economic status

Family status and economic factors were obstacles to caring for the elderly with hypertension. The caregivers had to work to earn a living for their families, so they had no time to provide proper elderly care.

“As I said, sometimes it is inconvenient for me to take him to the doctor because I will not get paid, but I need to go anyway because I am the main caregiver” (a 42-year-old female).

2.3 Healthcare service systems of related government agencies

Taking the elderly to see a doctor took a long time due to a lack of personnel to provide services to the public. The key informants gave the following details:

“The queue is long and crowded, and there are travel costs to see the doctor. Our house is far away. There are no buses. I have to ride a tricycle” (a 42-year-old female).

“When visiting a doctor, I need to go early in the morning and wait in a long queue since there are lots of people” (a 46-year-old female).

“Now they provide good services. But we have to wait a long time to see a doctor. There are many patients, but few doctors and nurses. They may be tired to death” (a 46-year-old female).

2.4 Travel expenses for doctors' visits

Caring for the elderly incurred a number of expenses. Apart from caring for the elderly, each household was also responsible for other family members and numerous expenses. There were costs associated with taking the elderly to see a doctor, such as transportation and food.

“The elderly seldom follow recommendations. If the doctor's appointment conflicts with my work time, I will not earn money because I am a daily worker” (a 40-year-old female).

“The queue is long and crowded, and there are travel costs to see the doctor. Our house is far away. There are no buses. I have to ride a tricycle” (a 42-year-old female).

3. The needs for assistance from the government or the private sector

The caregivers required assistance from the government or private sector in three areas: 1) access to a hospital or related health-promotion services; 2) service systems of hospitals or related health-promotion agencies; and 3) training in caring for hypertensive elderly patients.

3.1 Access to a hospital or related health-promotion services

The elderly relied on family caregivers to take them to the doctor, so in order to save family costs, the caregivers required relevant agencies to support their travel expenses, provide transportation services for the elderly's health checks, and send a mobile health unit to the target villages to assess the elderly's health, dispense medicines, and to give helpful advice.

“I want government agencies to provide transportation for doctor visits or arrange someone to take the elderly to the doctor when the caregiver is busy. I also need support for travel expenses” (a 42-year-old female).

“A mobile health unit should come to the village. It will be easy to see a doctor” (a 48-year-old female).

“I want them to provide drugs to my mother at home. I am unable to take her to the hospital because I work. If I let someone else go, I will not know the doctor’s results” (a 39-year-old female).

“I need support for medication and travel expenses for each doctor visit so that I can save money. My family is poor. We are just workers” (a 49-year-old female).

3.2 The service systems of hospitals or related health-promotion agencies

The elderly’s doctor visits took a very long time, so the caregivers wanted each hospital to have sufficient medical personnel available, including nurses and related staff, for the number of patients in order to provide more timely services.

“I want the service system to be faster with adequate personnel to reduce waiting time” (a 39-year-old female).

3.3 Training in caring for hypertensive elderly patients

The caregivers required training in caring for hypertensive elderly patients in the community, and some personnel needed to closely monitor community healthcare issues and provide useful advice.

“I want a service car or a village health volunteer to transport the elderly to receive medicines. They should train us how to care for the elderly because we do not know how to approach or convince them” (a 40-year-old female).

“I take care of my mother, as the doctor said, but I am not sure why we should avoid salty and sweet food. I only hear from others.”

4. The ability to care for the elderly with hypertension

It was found that the family caregivers had the ability to care for the elderly with hypertension according to doctor’s recommendations; they were able to take the elderly to

see a doctor as appointed. The caregivers felt happy to repay their elderly parents by taking care of them, despite feeling exhausted and discouraged at times.

“It is not a burden. In the past, my parents raised me. I return their favor by taking care of them. I care for them as much as I can, since I also have to work” (a 42-year-old female).

“I look after her in general. If I do not pay attention, I am afraid that the disease may worsen” (a 48-year-old female).

“I can take care of my father. It is not a burden. I am glad to care for him. But sometimes my work schedule prevents me from taking him to receive his check-up results. If I go, I will not earn money” (a 46-year-old female).

“I am the main caregiver. If I am busy, my sister will help. I teach her how to provide care. This is not a burden. I am happy to take care of him, although sometimes I feel tired and discouraged. He does not always believe us. I want him to recover and not get many diseases” (a 49-year-old female).

“I can take care of her with basic principles, but I am not sure of the reasons” (a 30-year-old female).

Discussion

The results of this study were obtained from the key informants, who were family caregivers caring for the elderly with hypertension. They had caregiving experiences in four main areas food, medication, exercise, and doctor visits from the results should discussion then find the article to support what you did which are considered their role in assisting parents or relatives that are chronically ill or that have disabilities (Schulz et al., 2020). Family caregivers are mostly informal caregivers, such as spouses, fathers, mothers, and children, who play a key role in voluntarily taking care of their loved ones during illness based on social relationships (Roth et al., 2015). Family-centered elderly care positively affects the elderly's quality of life because it is an approach where family members provide care to the elderly with love, affection, and understanding (Joopremeree & Tabootwong, 2022). In terms of problems and obstacles in caring for the elderly with hypertension, the

key informants stated that the elderly patients sometimes did not comply with the doctor's guidelines, for example when they insisted on eating salty food, and some of the elderly patients still preferred to add salt or fish sauce to their food because they were familiar with the salty flavor. Further, they tended to have poor appetites when they had to eat bland food, and this made them unable to control their blood pressure levels. This finding is consistent with a research study by Sodkomkam (2022), which indicated that eating salty food or too much sodium can cause blood pressure to increase. Some of the caregivers could not prepare food separately for the elderly with hypertension because their economic status was low and they had to cook for many members of the family. This is in line with the research results of Deenuanpanao et al. (2022), who found that hypertensive patients that must consume meals decided by family members are unable to choose what to eat for fear of causing family conflicts. This is a common trait in Thailand, and it can have an impact on blood pressure management. This finding is different from a study⁴ by Blackstone et al. (2019), which revealed that hypertensive patients are tired from work, so they have to eat food that is easily available regardless of its taste. Another important problem and obstacle found in this study was that hypertensive elderly patients tended to stop taking medicine after getting better. This is consistent with the findings of Jansongkram (2022), who found that perceived benefits and barriers have an influence on the medication-taking behavior of hypertensive patients. Thus, it can be said that eating and medication-taking behaviors are factors affecting blood pressure control in the elderly. As a result, caregivers must focus on making patients understand the symptoms of hypertension that may not be evident in some cases and the negative effects of poor medication compliance so that they will not misunderstand and stop medicine on their own.

Based on the research results, the key informants that served as the main caregivers had the ability to take care of hypertensive elderly patients in accordance with the doctor's guidelines they felt that it was not a burden. They were pleased to repay their elderly parents' kindness (Jooprempee & Tabootwong, 2022). Moreover, they thought that caring for the elderly required patience, since sometimes they felt exhausted and discouraged. The results showed that in Thai society, spouses, children, and grandchildren assist and take care

of the elderly, who are vital members of the family, with love and affection (Knodel et al., 2018). This is in line with the research results of Nieamsup et al. (2019), who found that the elderly are valued members of the family in the social and cultural context of northern Thailand. In addition, according to Thai families' beliefs and values, love and strong ties within the family can also encourage family members to take care of one another (Jooprempee & Jongudomkan, 2019).

The caregivers in this study needed relevant agencies to cover travel expenses, arrange a service car to transport elderly patients to doctors' appointments, and send a mobile health unit to the village. Their needs for assistance are associated with their elderly care concerns or burdens (Del-Pino-Casado et al., 2018). Providing care for the elderly was found to have a physical, mental, social, and economic impact on the main caregivers; they were exhausted and stressed, and they lacked income since they had to take a leave from work to take the elderly to doctors' visits (Bom et al., 2018). All of these factors prompted them to seek aid from involved agencies. This is consistent with the findings of Bierhals et al. (2017), who revealed that caregivers in home care need help from patients' relatives to carry out elderly care activities, such as bathing, dressing, and medication preparation. In addition, caregivers also need support from social networks to help reduce the stress of being a caregiver (Couto et al., 2018).

Thus, in order to provide effective elderly care, caregivers must be supported to have appropriate knowledge and skills in caring for the elderly, which will result in efficient control of blood pressure and caregivers' good quality of life. This is in line with the findings of Sodkomkam (2022), who suggested that correct medication-taking has the greatest influence on blood pressure control public health officials should assign a family caregiver to monitor medication-taking behavior at the family level.

Conclusion

The findings revealed that the majority of the caregivers were informal caregivers with limited elderly care knowledge and skills. In order to address and deal with elderly care challenges, relevant government agencies and community organizations should work

together to develop the potential of family caregivers in caring for hypertensive elderly people. This is because providing elderly care with love, care, and understanding from family members will result in the elderly having a higher quality of life.

Limitations of the study

This qualitative research was carried out only in Ratchaburi Province, Thailand, so the results may not be generalized to other settings. However, the findings can be used as a basis for conducting quantitative and mixed-methods research studies on the elderly with hypertension and caregiver support systems in developing countries.

Recommendations

Recommendations for research applications

From any issue of the result so the researcher develop like this Developing the capacity of family caregivers holistically by taking account of their beliefs, cultures, problems, and obstacles in caring for the elderly with hypertension will result in hypertensive elderly patients receiving effective elderly care and in caregivers achieving a better quality of life.

Recommendations for future research

From the result still has the gap so in further research should study more quantitative. The findings of this study can serve as a foundation to develop further quantitative and mixed-methods research on hypertensive elderly patients' healthcare. Moreover, the findings can be utilized to foster the capacity of family caregivers based on a family-centered and community engagement approach.

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References

Aekplakorn, W., Puckcharern, H., Satheannoppakao, W., (2021). Thai national health examination survey, NHES VI 2019-2020. Bangkok: Aksorn Grphic and Design Publishing Limited Partnership. (in Thai).

Beck, C. T. (2020). Introduction to phenomenology: focus on methodology. California: SAGE Publications Ltd.

Bierhals, C. C. B. K., Santos, N. O. D., Fengler, F. L., Raubusstt, K. D., Forbes, D. A., & Paskulin, L. M. G.(2017). Needs of family caregivers in home care for older adults. *Revista latino-americana de enfermagem*, 25, e2870-e2870.

Blackstone, S., Iwelunmor, J., Plange-Rhule, J., Gyamfi, J., Quakyi, N. K., Ntim, M., ... & Ogedegbe, G. 2019). 'I believe high blood pressure can kill me:'using the PEN-3 cultural model to understand patients' perceptions of an intervention to control hypertension in Ghana. *Ethnicity & Health*, 24(3), 257-270

Bom, J., Bakx, P., Schut, F., & van Doorslaer, E. (2018). The impact of informal caregiving for older adults on the health of various types of caregivers: A systematic review. *The Gerontologist*, 59(5), e629 e642.

Couto, A. M. D., Caldas, C. P., & Castro, E. A. B. (2018). Family caregiver of older adults and cultural care in nursing care. *Revista Brasileira de Enfermagem*, 71(3), 959-966.

Deenuanpanao,S., Naksrano,S, Sangsuwan,T. (2022). Self-care experiences in persons with hypertension. *Journal of Health and Nursing Education*, 28(2), 1-18. (in Thai).

Del-Pino-Casado, R., Frías-Osuna, A., Palomino-Moral, P. A., Ruzafa-Martínez, M., & Ramos-Morcillo, A. J. (2018). Social support and subjective burden in caregivers of adults and older adults: A meta-analysis. *PLOS ONE*, 13(1), e0189874-e0189874.

Friedman, M. M., Bowden, V. R., & Jones, E. G. (2003).Family nursing: Research, theory, and Practice. (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Jansongkram, N. (2022). Factors related to medication taking behaviors in hypertensive patients. *EAU Heritage Journal Science and Technology*, 15(2), 142-159. (in Thai).

Jooprempee, K. & Jongudomkarn, D. (2019). Perceptions of elderly women in relation to the concept of family Care: Case studies in community at Laplae District, Uttaradit Province. *Journal of Nursing and Health Care*, 37(2), 73-82. (in Thai).

Jooprempee, K. & Tabootwong, W. (2022). Experiences of primary caregivers in caregiving for older family members with Bedridden at home. *Boromarajonani College Nursing, Uttaradit Journal*, 14(1), 191-205. (in Thai).

Knodel, J., Teerawichitchainan, B., & Pothisiri, W. (2018). Caring for Thai older persons with long-term care needs. *Journal of Aging and Health*, 30(10), 1516-1535.

Nieamsup, T., Padwang, B. & Jongudomkarn, B. (2019). The Suffering-happiness of the elderly who depend on families: A qualitative study in northern socio-cultural context of Thailand. *Boromarajonani College of Nursing, Uttaradit Journal*, 12(1), 151-164. (in Thai).

Nunyapruk,C., Therawiwat,M., Kaeodumkoeng,K. & Imamee,N. (2019). Factors related to blood pressure control behaviors among hypertensive patients in Ranod Hospital, Songkhla Province. *Journal of Health Education*, 42(1), 190-203. (in Thai).

Ratchaburi Provincial Public Health Office. (2022). Health data center (HDC) , Ratchaburi Provincial: <https://rbr.hdc.moph.go.th/hdc/reports/report>. (in Thai).

Rattanaraj, P., Sarakan, K. & Kotta, P. (2020). Potential of elderly caregivers associated with Isan cultural context. *The Journal of The Royal Thai Army Nurses*, 21(1), 147-156. (in Thai).

Roth D. L., Fredman, L., Haley, W. E. (2015). Informal caregiving and its impact on health: a reappraisal from population-based studies. *The Gerontologist*, 551, 309-19.

Schulz, R., Beach, S. R., Czaja, S. J., Martire, L. M., & Monin, J. K. (2020). Family caregiving for older adults. *Annual review of psychology*, 71, 635-659.

Sodkomkam, N. (2022). Factors affecting blood pressure control among patients with primary hypertension, Samut Songkhram Province. *Journal of Research for Health Improvement and Quality of Life*, 2(2), 25-35. (in Thai).

World Health Organization (WHO). (2013). A global brief on hypertension silent killer, global public health crisis. Geneva: WHO Press.