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A Study on Dysphagia in the Elderly Based on Health Belief Model among the Elderly in Hua Sai Sub-District, Bang Khla District, Chachoengsao Province, Thailand

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Abstract

This study is quantitative research. Its objectives were to: 1) Explore the level of dysphagia in the elderly according to health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, 2) Compare the types of dysphagia in the elderly based on health belief model among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province according to general data, and 3) Study the swallowing difficulties, in the elderly based on the health belief model, which affect self-care to prevent choking of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province. The sample was 227elderly people in Hua Sai Subdistrict, Bang Khla District, Chachoengsao Province. The statistics used were frequency, percentage, mean, standard deviation, t-test, f-test, and multiple regression. The results of the study showed that: 1) The overall dysphagia in the elderly based on the health belief model among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province was moderate. The average levels were considered in each aspect and ranked sequentially from the highest to the lowest level were in the following: perceived threats, perceived severity, perceived opportunities of risk, perceived self-efficacy, cues to action, and perceived obstacles respectively. 2) Comparison of dysphagia in the elderly based on health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, classified according to general data, it was found that the gender, age, marital status, education level, and occupation were different. And the swallowing difficulties in the elderly based on health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province were not different, but the adequacy of income and underlying diseases were different. 3) Dysphagia in the elderly based on health belief model could affect self-care to prevent choking in the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province. In terms of cues to action, perceived self-efficacy, and perceived threats affect the self-care to prevent choking among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, accounting for 43.60 percent, statistically significant at the level of .05.

Keywords: *Dysphagia, Elderly, Health Beliefs Model, Self-Care, Chachoengsao Province.*

INTRODUCTION

Dysphagia is a condition in which a person cannot swallow food, water or medicine effectively and safely (Phaitoon Benjapornlert, 2018), showing symptoms of difficult and slow swallowing. A person with dysphagia takes a lot of effort to swallow each time, feeling of having food stuck in the pharynx area or coughing and choking while eating or drinking water. As a result, the elderly do not want to eat, are afraid or worried about swallowing each time, and eat less food, affecting their nutritional status, causing weight loss, and lack of nutrients or energy needed to carry out various activities.

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It may result in complications such as lung infections due to choking, acid reflux, dehydration, and others. It also increases the burden on caregivers (Piyaphat Dechpradham, 2013). Dysphagia is often found in stroke patients, dementia, Parkinson's disease, neurological diseases, psychiatric diseases, as well as diseases that cause muscle spasms, making it difficult to swallow food. Symptoms indicating the swallowing difficulty are coughing, choking when swallowing, hoarseness, blurred sound after just swallowing food, feeling that food is stuck in the throat or chest, abnormal weight loss, and eating habits changed. Dysphagia may cause patients to avoid drinking water or eating because they are afraid of choking, causing weakness, risk of infection, or anxiety about eating with others. This makes them distance themselves from society and start eating alone, leading to depression (Noppat Thongkhamwong, 2017).

Dysphagia is a common problem in the elderly, most often found in the elderly with reduced ability to swallow or digest the system, or the elderly with neurological diseases such as stroke, dementia, Parkinson's disease, etc. In addition, dysphagia might also be caused by changes in function due to medications that the elderly must take, etc. (**Chanipol Boonyawat, 2021).** The effects of dysphagia affect the body, mind, and society. The elderly could eat less, resulting in malnutrition, dehydration, choking results in pneumonia, feeling discomfort in the mouth and throat, feeling thirsty. Dysphagia in the elderly does not only affect the elderly but also impacts on their families and caregivers.

It reduces the quality of life of the elderly and their families (Fletcher, 2015). It also results in the elderly feeling divided from society, especially while having meals. When they see other family members or other patients having food together in the ward but they themselves are unable to eat (Malhi, 2016). Among the elderly with these conditions or diseases, dysphagia can be found up to 50-75% and silent choking would be together found by 40-70%, resulting in severe infectious pneumonia. If the elderly have pneumonia and have been infected, it would be found silent chocking as high as 71%. Moreover, it has been reported that the death rate from aspiration pneumonia is nearly 30% among the elderly over 60 years old (Kantnit Pongpipatpaiboon, 2021).

In the past five years, Thailand (2018 - 2022) had reported an average of 20,000 pneumonia cases per month throughout the year, and it had a tend to increase during the winter season in 2023, from January to October 2023. It was reported 239,197 cases, accounting for a morbidity rate of 361.48 per 100,000 population. There were 224 deaths; mortality rate of 0.34 per 100,000 people, and male to female ratio was 1: 0.81. The age group with the highest morbidity rate was those aged of 0 - 4 years, equal to 2,338.76 per 100,000 population. This was followed by the age group of 65 years and over (1,040.02) and the age group of 55 - 64 years (325.21).

The region with the highest morbidity rate was the Northeast region, at the rate of 425.18 per 100,000 people. It was followed by the Southern Region (395.64), the Northern Region (372.02), and the Central Region (277.55). Based on the current situation, it is found that the number of pneumonia cases is increasing. It is usually found in children under 4 years old and the elderly aged 65 years and above, and most of the deaths are found in the elderly group of 65 years and older, 59.43 percent. Therefore, the elderly should strictly behave to prevent themselves from pneumonia and infected lungs to reduce the morbidity and mortality rate of such diseases (Department of Disease Control, 2023).

Chachoengsao Province in 2022, it was found that the top 5 mortality rates of the province were cancer (111.30 per 100,000), hypertension (27,015.32 per 100,000), pneumonia, and pneumonia. (62.00 per 100,000) septicemia (51.92 per 100,000), stroke (50.68 per 100,000), and heart disease (41.56 per 100,000) respectively. In 2022, there were 2,299 patients with pneumonia, incidence rate of 317.48 per 100,000 people (Chachoengsao Provincial Public Health Office, 2023).

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In 2024, there were 141,609 people, accounting for 19.64% of the total population. It was found that the risk rate of stroke (CVD) was very high, and the combined risk of stroke was the highest as 150,900 cases or 11.30 % of total population. Stroke is one of the causes of dysphagia, which can cause choking on food and water, as well as causing pneumonia in the elderly (Chachoengsao Provincial Public Health Office, 2024).

Based on the above importance and problems, the researchers are interested in studying dysphagia in the elderly according to health beliefs model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, because the number of elderly people accounts for 29% (Hua Sai Health Promoting Hospital, 2025) and this issue has never been studied before. This study would provide guidelines for the elderly to take good care of themselves and enable them to live happily using the Health Belief Model (HBM) (Becker, 1974: Janz and Becker, 1984), which is a psychological model that describes and predicts health behaviors by focusing on a person's attitudes and beliefs. To avoid getting sick, they must have a belief or awareness that there is a chance of getting the disease and recognize that the disease is severe, recognize obstacles, recognize self-efficacy, and know that there are other factors that affect their livelihood.

It would have some positive effects in reducing the risk of disease or reducing the severity of the disease. In this study, HBM is applied in the context of the elderly, which is related to swallowing difficulties. Perceived susceptibility is the perception that older adults assess their risk of complications from dysphagia, such as choking pneumonia or malnutrition, understanding how patients perceive risk could influence their willingness to behave. **Perceive seriousness** is the perception that the consequences of difficulty swallowing are severe to life. Therefore, the elderly are more likely to take care of themselves to prevent and undergo treatment, such as following dietary advice or participating in speech therapy.

Perceived Threat is the perception of the threat of complications of various diseases, which leads to improved swallowing capacity or better health. Perceived Barrier is the perception of barriers that older adults face in managing swallowing difficulties, such as difficulty preparing modified meals or lack of support. Understanding these barriers can help design ways to help older people practice better.

Perceived self-efficacy is the perception of self-confidence, confidence in their ability to effectively manage swallowing difficulties. Cues to Action is something related to the stimulation that makes the elderly participate in practicing behaviors that promote health, such as doctors, nurses, nurses, caregivers, families, etc. It is in line with Valpa Buranaklas (2017), saying that health problems are all preventable behaviors, and the cause of most diseases is lifestyle habits or self-health care habits.

Encouraging the elderly to have the right self-care behaviors is an important factor in ensuring good health for the elderly. It can prevent and slow down the physical and mental deterioration of the elderly. It is in line with the study of Chuanpit Siripaiboon, Ittipol Duangjinda, Kanthima Srimaksuk, Sri Surang Kehannak and Ankana Boonkrong (2021); it was found that: older people who understand the factors that affect beliefs, perceptions, and correct and appropriate health behavior practices make disease prevention and health promotion successful and lead to better health conditions for the elderly.

The application of the HBM concept in this study was to study which factors of dysphagia in the elderly according to health beliefs model that affect self-care to prevent choking of the elderly in Hua Sai sub-district, Bang Khla District, Chachoengsao Province. The expected results would be applied in the development of guidelines for caring for the elderly to prevent choking and promote a good quality of life.

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Research Objectives

1. To study the level of dysphagia in the elderly based on health belief model among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.
2. To compare dysphagia in the elderly based on health belief model among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.
3. To study dysphagia in the elderly based on health belief model affecting self-care to prevent choking of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.

Research Hypothesis

1. The level of dysphagia in the elderly according to health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province would be moderate.
2. Dysphagia in the elderly according to health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, classified by gender, age, marital status, education level, occupation, income adequacy, and underlying diseases, would not differ statistically significantly at the level of .05.
3. Dysphagia in the elderly according to health belief model could affect at least one aspect of self-care to prevent choking of the elderly in Hua Sai sub-district. Bang Khla District, Chachoengsao Province.

Research Conceptual Framework

The researchers used the concept of dysphagia in the elderly according to health belief model of the elderly, using Health Belief Model (Becker, 1974: Janz and Becker, 1984), by applying the theoretical elements of health belief according to the concept framework of elderly health care. The primary variables are the concept of health beliefs of the elderly, including the perceived risk, the perceived severity, the perceived threats, the perceived barriers, the perceived self-efficacy, and cues to action. The dependent variables include self-care behaviors for preventing dysphagia. All mentioned variables could be summarized as a conceptual framework for conducting research as shown in figure 1.

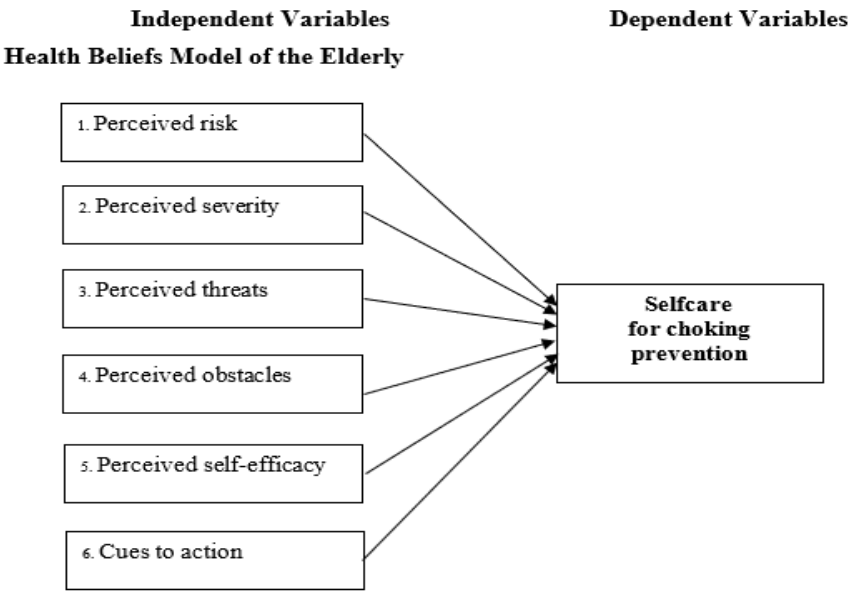

Figure 1: Conceptual Framework of Research

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RESEARCH METHODOLOGY

Research Design: It is quantitative research.

Population used in the study: The elderly people aged 60-70 years, both male and female, in Hua Sai Subdistrict, Bang Khla District, Chachoengsao Province 523 people.

Study Sample: The participants in the sample were 227 elderly people, aged 60-70 years, both male and female, in Hua Sai Subdistrict, Bang Khla District, Chachoengsao Province, 227 people. The sample size was determined by calculating from the tables of Krejcie & Morgan (1970). Then, the stratified random sampling was conducted by sampling samples from each of seven villages, including Ban Hua Sai, Ban Klauy, Ban Kumon, Ban Thang Kam Noi, Ban Nam Cha, Ban Lat Bua Khao, and Ban Lat Khok in Hua Sai Subdistrict, Bang Khla District, Chachoengsao Province. In each village, a simple random method was applied according to the proportion of the sample in each village until a sample size of 227 people was obtained.

The inclusion criteria were as follows:

Inclusion Criteria included the elderly aged 60-70 years, both male and female, in Hua Sai Subdistrict, Bang Khla District, Chachoengsao Province.They had normal perception of date, time and place, no dementia, with being assessed using the Thai version of the Initial Brain Condition Assessment Form. (MMSE -Thai 2002), qualified for no dementia, able to hear and communicate in Thai, agreed to provide information, give consent, and sign the honest signature as evidence. Exclusion criteria included the elderly with dementia, Parkinson's disease or neurological diseases, and mental health disorders.

Tools used for data collection

The tools used in this research included:

1. Mini-Mental State Examination Thai Version 2002: MMSE-Thai 2002: This test is the Thai version of the Basic Brain Condition Test Committee (1999). It was used to screen samples by passing the criteria for suspected dementia as follows:

The normal elderly people who had no schooling (no read nor write; no need to take the test item: 4, 9, and 10) scored ≤ 14 points out of 23 points.

Regular seniors with elementary school had scored ≤17 points out of 30 points.

Normal seniors who had higher than primary school scored ≤ 22 points out of 30 points.

2. The Dysphagia Perception Questionnaire, which was created from the concept of health belief model, consisted of 3 parts as follows:

   Part 1: Questionnaire on General Information: Seven questions were in the form of a check list, the open-ended and multiple-choice questions about gender, age, marital status, education level, occupation, income adequacy, and medical conditions.

   Part 2: Questionnaire on dysphagia in the elderly was designed according to the health beliefs of the elderly, using the Health Belief Model (Becker, 1974: Janz and Becker, 1984). The theoretical elements of the health belief model were applied according to the framework of the concept of elderly healthcare, including the perception of risk opportunities, the perception of severity, the perception of threats, the perception of obstacles, the perception of the self-efficacy, and cues to action. The rating scale of assessment was based on a 5-level rating scale:

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Positive Messages Negative messages

5 = Most agree.	1 = I agree very much.ที่สุด
4 = I agree very much.	2 = I agree very much.
3 = agree	3 = agree
2 = disagree	4 = disagree
1 = Most disagree.	5 = Most disagree

Part 3: Self-Care Questionnaire to Prevent Choking: The 11 items are in the form of a 5-level rating scale: most agree, agree much, agree. disagree and disagree the most.

Tools were verified for accuracy and content validity by three experts. The IOC value of the tools was 0.87.

Tools were tried out on 30 elderly people with similar characteristics to the sample at Tha Thonglang Health Promoting Hospital, Bang Khla District, Chachoengsao Province.

Then the questionnaire was identified confidence; Cronbach's Alpha Coefficient was calculated to have a confidence value of 0.935, which was adjusted according to the suggestions into a complete questionnaire before applying it to the sample.

Data Collection

The researchers collected data by distributing questionnaires to the elderly who came to receive services at Hua Sai Health Promoting Hospital, Bang Khla District, Chachoengsao Province. After that, the researchers collected the responded questionnaires themselves.

Data Analysis

The researchers analyzed the data by statistical method using a ready-made computer program, by checking the accuracy and completeness of the questionnaire responses to each question and proceeding as follows:

1. Analyze the general information of the respondents by calculating the frequency and percentage values.
2. Questionnaire data on the level of dysphagia in the elderly were analyzed according to the concept of health beliefs of the elderly and self-care to prevent choking by analyzing the average value ($\bar{X}$) and standard deviations (S.D.) in the overall picture and classified by each aspect, then interpreted according to the criteria.
3. Comparative analysis of dysphagia in the elderly according to the concept of health beliefs of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province: it was classified by gender, age, marital status, education level, occupation, income adequacy, and medical conditions, T-test, and F-test.
4. Analysis of dysphagia in the elderly based on the concept of health beliefs that affected self-care to prevent choking in the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province by multiple regression analysis (Multiple Regression Analysis).

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Statistics used to analyze the data.

In the data analysis, the researchers used the following statistics:

1) Frequency distribution

2) Percentage

3) Average ($\bar{X}$)

4) Standard deviation (S.D.)

5) T-test One-way ANOVA

6) Multiple Regression Analysis

Protecting Human Subjects Participating in Research

This research has been reviewed by the Human Research Ethics Committee of Rajabhat Rajanagarindra University follow by project number RRU-IRB 009/2567, and the sample group has voluntarily provided information.

RESEARCH RESULTS

1. **Respondent's Personal Information:** Most of respondents were female, aged between 69 and 70 years old. Most of them had completed primary school or below, agricultural occupation with sufficient income. Most of them had a medical condition, such as high blood pressure, hyperlipidemia, heart disease, stomach diseases, cancer, and thyroid disease.
2. Results of the study on the level of dysphagia in the elderly according to the concept of health beliefs of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province

The results of the study showed that the difficulty of swallowing in the elderly according to the concept of health beliefs of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province was generally moderate. The order from the most average to the lowest value is the perception of threats, followed by the perception of severity, the perception of risk opportunities, and the perception of self-efficacy, cues to action and perception of obstacle, respectively.

When considering in each aspect, it was found that:

1) In terms of risk perception, the overall level was very high. The most common ones were feeling that the corners of the mouth were dropped, crooked/not closed completely, and drooling. Secondly, there was food residue in the oral cavity after swallowing, often feeling that the food could not be swallowed completely, or there was a feeling of swallowing food stuck in the throat. And the least average was chewing food thoroughly before swallowing.

2) In terms of perception of severity, the overall level is very high. The most average was feeling drooling, having food or discharge from the mouth or nose. The second most were symptoms of food loss before swallowing food, or after swallowing water or food, having coughed after swallowing food more frequently. And the lowest average was that feeling of more difficult to swallow solids than liquids.

3) In terms of overall perception of threat, the level is very high. When each item was considered, the most average was that having had so choking that it caused fever, cough, and sputum. Secondly, while eating, they often had choking symptoms that made them not want to go out to eat with friends or grandchildren. And the lowest average was fatigue, feeling weak, and not having much strength to walk.

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4) Perception of obstacles was generally moderate. The most average was that as they get older, it was difficult to swallow. Second most was "Children and grandchildren have knowledge of cooking suitable for the elderly," and "The absence of teeth to chew food causes difficulty swallowing." And the least average value was that "As they get older, there will be a decrease in saliva that helps digestion."

5) In terms of self-awareness, the overall level was moderate. The most average was to observe oneself with frequent choking on food. The second most, if they lose weight and cannot swallow all their food, they will see a doctor immediately. And the least average was knowing how to exercise the muscles in the mouth, pharynx, and larynx.

6) In terms of stimulating factors, the overall level was moderate. The most average was having sufficient knowledge about chewing and swallowing food correctly. Secondly, the staff of the hospital or the health department provided knowledge about swallowing training, had access to various materials that helped them have knowledge of chewing and swallowing correctly. And the lowest average was that there was a caregiver or child who helped teach the correct way to chew food to prevent choking.

3. The results of the study on the level of self-care to prevent choking were generally moderate. The most average was that when eating, they usually scooped up a little spicy food. คำ Secondly, while eating, they would not play with mobile phone, sit upright at 90 degrees, and keep head straight while eating. And the least average was to learn to swallow one own saliva/learn to usually swallow small ice cubes.

4. Results of a comparative study on dysphagia in the elderly according to the concept of health beliefs of the elderly in Hua Sai sub-district Bang Khla District, Chachoengsao Province Classified by General Data

Results of a comparative study on dysphagia in the elderly based on health belief model of the elderly in Hua Sai sub-district Bang Khla District, Chachoengsao Province were classified by gender, age, marital status, education level, occupation, income adequacy, and underlying diseases, it was found that gender, age, marital status, education level, and occupation were different.

Dysphagia in the elderly according to health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province did not differ statistically significant. However, the adequacy of income and medical conditions were different. Dysphagia in the elderly based on health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province was statistically significantly different at the level of .05.

5. Dysphagia in the elderly based on health belief model affects self-care to prevent choking of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.

It was found that dysphagia in the elderly based on health belief model in terms of cues to action, perceived self-efficacy, and perceived threats could affect self-care for preventing dysphagia of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.

The overall predictive efficacy (R2) was .436. It means that the cues to action, self-efficacy, and the perceived threats were able to co-predict the self-care to prevent choking among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, 43.60 percent, statistically significant at the level of .05.

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It can be written as a predictive equation in the form of raw scores as follows:

$$\hat{Y} = a + bx$$

$$\hat{Y} = 1.517 + .255X_6 + .342X_5 + (-.100)X_3$$

It can be written as the predictive equation in the form of a standard score as follows:

$$Z'_Y = .412X_6 + .308X_5 + (-.128)X_3$$

X_6 refers to the cues to action. X5 refers to self-efficacy. X3 refers to the perceived threats.

DISCUSSIONS

1. Results of a study on the level of dysphagia in the elderly based on health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.

It was found that the difficulty of swallowing in the elderly based on health belief model of the elderly in Hua Sai Subdistrict, Bang Khla District, Chachoengsao Province was generally moderate. The finding was in line with Thanatorn Sangkaew and Noppamas Kosol (2024), studied the health perceptions based on health beliefs and health care behaviors of the elderly with hypertension, Nakhon Si Thammarat Province. It was found that the overall health perception according to health beliefs was moderate. It was also in line with Panida Chaiwang (2019) studied health beliefs and disease prevention behaviors of the elderly with prehypertension and found that the overall health beliefs were moderate. This might be because the elderly had been informed about self-health care periodically from the training of village health volunteers, nurses, and public health professionals of the Sub-district Health Promotion Hospitals in accordance with the policy of the Ministry of Public Health of Thailand. However, there had been no training and education on the prevention of choking in the elderly in the sub-districts studied before, so it was found that the elderly had a moderate perception of dysphagia in the elderly according to the overall health belief.

1) In terms of risk perception, the overall level was very high. It was in line with Chuanpit Siripaiboon, Ittipol Duangjinda, Kanthima Srimaksuk, Sri Surang Kehannak, and Ankana Boonkrong (2021) studying health beliefs and health-promoting behaviors of the Thai elderly in Mueang District, Samut Songkhram Province. It was found that the perception of risk opportunities was at a high level overall. It was in line with Pensri Pasuk (2020), studied health beliefs and self-care behaviors of the elderly, Nong Khae Subdistrict, Ratsi Sai District, Sisaket Province. It was found that the overall perception of risk opportunities was at a high level. This might be because the elderly had an easier and more convenient way to recognize the risks to their own health. Because there were always phone calls and online channels to send information and knowledge from the NHS or health professionals. This made them aware and aware that as they got older, their physical condition would deteriorate. Therefore, it was found that the overall perception of risk opportunities was at a high level.

2) In terms of perception of severity, the overall level was very high. It was in line with Chuanpit Siripaiboon, Ittipol Duangjinda, Kanthima Srimaksuk, Sri Surang Kehannak, and Ankana Boonkrong (2021); they studied health beliefs and health-promoting behaviors of the Thai elderly in Mueang District, Samut Songkhram Province and found that the overall perception of severity was at a high level. It was also in line with Pensri Pasuk (2020), studying health beliefs and self-care behaviors of the elderly, Nong Khae Subdistrict, Ratsi Sai District, Sisaket Province. It was found that the overall awareness of severity was at a high level. This might be because this group of elderly people was aware of the severity of the disease due to not being given health promotion information, and that they had never known the severity of the disease as the elderly with underlying diseases or

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chronic diseases who had seen their doctors regularly. The feeling of the severity of the disease that it might cause disability, death, difficulty, and long time to treat might cause difficulties for children and grandchildren to take care of them or affect their social status. Therefore, it was found that the overall perception of violence was at a high level.

3) In terms of overall the perceived threats, the level was very high. It was in line with Farida *et al*. (2021) studied the risk of dementia in the elderly in Khuan Don Sub-district, Khuan Don District, Satun Province. It was found that the risk of harassment in the elderly was high. This might be due to most of the elderly perceive and understand the threat to their own lives, which was mainly due to their own health care behavior. Therefore, to prevent problems, it is necessary to be careful in living or living with correct and appropriate self-care behaviors to prevent diseases leading to good health of the elderly, such as recognizing that dysphagia is a serious threat to health and the risk of choking that causes fever, cough, and sputum. While eating, they often choke and do not want to go out to eat with friends or grandchildren, feel that they have lost weight, have fatigue, feel that they have little strength to walk, etc.

4) Perception of obstacles is generally moderate. It was in line with Chuanpit Siripaiboon, Ittipol Duangjinda, Kanthima Srimaksuk, Sri Surang Kehannak, and Ankana Boonkrong (2021); they studied health beliefs and health-promoting behaviors of the Thai elderly in Mueang District. Samut Songkhram Province. It was found that the overall perception of obstacles was moderate. It was in line with Panida Chaiwang (2019) studying health beliefs and disease prevention behaviors of the elderly. It was found that the overall perception of obstacles was moderate. This might be because most of the elderly have been educated and believe that good self-care behavior can prevent diseases. However, especially dysphagia in the elderly, their families or children do not have good enough knowledge, no educational training or advice for caregivers on preparing food suitable for the elderly who do not have teeth to chew food and prevent difficulty swallowing. As people get older, there would be a decrease in saliva helping digestion, so it should have health promotion to prevent health problems or an obstacle in their lives. Therefore, it was found that the overall perception of obstacles was moderate.

5) In terms of self-efficacy, the overall level was moderate. It was in line with the Tattiya Nakhonchai, Patcharanan Rattanapak, & Jiraporn Chankaew (2023) who studied the relationship between health literacy, perception of self-efficacy and self-care behavior of patients with many chronic diseases. It was found that the perception of self-efficacy was moderate. It was in line with Ankhana Khamrak (2024) who studied the factors predicting the health behavior of adults who had been infected with the 2019 coronavirus. It was found that the perception of self-efficacy was moderate. This might be because the elderly and their families had the knowledge, understanding, and confidence to take care of themselves to prevent choking. Therefore, the perception of self-efficacy to behave without swallowing difficulties overall moderate.

6) In terms of stimulating factors, the overall level was moderate. It was in line with Kulnit Minarin, Kesini Intip, Pannapa Ngenseng, Wanida Maitrianothai and Supaj Boonprasong (2006) who studied the factors related to health-promoting behavior of the elderly in Charim Subdistrict, Tha Pla District, Uttaradit Province, in April 2007. It was found that the induction/stimulation of health practices for the elderly was moderate. This might be because the elderly were still not confident in the knowledge of self-care, as well as with the cultural habit of Thai people often being afraid of people in the medical professionals, nurses, and health workers, being worried about their children and grandchildren who had to take care of themselves. When they have health problems, they do not dare to ask questions. They often let go of their illness and then come to see the doctor, so they lack preventive knowledge. As for medical personnel, Thailand still has a shortage of doctors.

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Therefore, the provision of information on various health information, especially swallowing difficulties in the elderly, has also decreased. Therefore, it was found that the triggering factors or "cues to action" are the factors that trigger the perception of self-health care behavior, unable to exchange ideas with family members, being encouraged by family members to see a doctor by appointment and providing information about their lifestyle to make a person behave in self-care to prevent higher levels of disease. The overall level of this factor is moderate.

2. The results of the study on the level of self-care to prevent choking were generally moderate.

This is in line with Thitima's research. Tasuwanin, Saifon Supasri, Varunee Panwong and Varanya Manirat (2023) studied self-care behavior and self-health awareness of the elderly in the district of Mueang Chiang Rai, Chiang Rai Province. It was found that self-care behavior was moderate. This might be because_most of the elderly had graduated from primary school or below, were engaged in agricultural occupations, and might have less knowledge of self-care in terms of self-health to prevent choking. In addition, the body at this age began to undergo many changes and deterioration in many aspects. It was in line with Wilaiwan Thongcharoen (2011), who said that during the old age, all the self-care needs of the elderly would be focused on self-care, from the date which their physical body was deteriorated. Therefore, self-care behavior plays a very important role. However, due to the relatively small number of education and most agricultural occupations, there is less health knowledge and access to online media information, and agricultural occupations that require gardening all day are rarely taken care of as much as they should. As a result, it was found that the level of self-care to prevent choking was generally moderate.

3. A comparative study on dysphagia in the elderly based on health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.

Results of a comparative study on dysphagia in the elderly according to health belief model of the elderly in Hua Sai sub-district Bang Khla District, Chachoengsao Province by gender, age, marital status, education level, occupation, income adequacy, and underlying diseases. It was found that gender, age, marital status, education level, and occupation were different. Dysphagia in the elderly according to health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province did not differ statistically significant. It was in line with the research of Wanwisa Vejprasit (2022), which was found that gender, age, marital status, and income were different. This might be due to: Most of the elderly were female, who could take care of themselves equally well, had basic knowledge from taking care of their children and grandchildren before, so they could take care of themselves basically. They were in the range of 69 - 70 years old, which was a close age range, and they had similar health behaviors. The status of living with a spouse made it possible to have friends who thought about taking care of each other and consulted each other's health closer than without a spouse living together. Most of them had graduated from primary school or below and were engaged in agriculture, which might lead to similar knowledge and self-sufficiency. Therefore, it was found that: Dysphagia in the elderly based on health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province found that gender, age, marital status, education level, and occupation were different. Dysphagia in the elderly according to health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province. There was no difference.

However, the adequacy of income and underlying diseases_were different, and there was a statistically significant difference in swallowing difficulties in the elderly based on health belief model of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province. This was not in line with the research of Wanwisa Vejprasit (2022) which found that income was different. Health beliefs among retired individuals had no difference. This might be due to: Elderly people with

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sufficient income and underlying medical conditions would be able to visit the doctor regularly and always be aware of self-care. Those with insufficient income and no underlying diseases were less likely to see a doctor than those with underlying diseases, so they might lack knowledge about self-care. Therefore, it was found that the adequacy of income and medical conditions were different. The elderly had difficulty swallowing according to the concept of health beliefs of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.

4. Dysphagia in the elderly based on health belief model affects self-care to prevent choking of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province.

It was found that dysphagia in the elderly according to health belief model. In terms of cues to action, perception of self-efficacy, and perception of threats had affected self-care to prevent choking of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province. The overall predictive efficacy (R2) was .436, which means the cues to action, self-efficacy, and perceived threats were able to co-predict self-care to prevent choking among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, 43.60 percent, statistically significant at the level of .05. This was in line with the study of Wannakorn Polpichai and Chandra Oui Eng (2018) who studied the quality of life, health beliefs and health promotion behaviors of fishermen in Trang Province. It was found that health belief model, the perceived benefits of treatment and prevention, perceived severity of disease could predict health promotion behaviors of 27.90 percent, statistically significant at the level of 0.05. This might be due to that in the context of the elderly in Hua Sai Subdistrict, Bang Khla District, Chachoengsao Province, mostly people were farmers, primary education, and they mostly lived together as big family, and they still shared a belief that they had to rely on their children and relatives to take care of them when they became old.

Their caregivers also lacked knowledge to take care of the elderly or to give time to take care of the elderly to prevent choking from their young children. They also obeyed public health workers, doctors, and nurses who visited them and provided knowledge and gave advice on health behavior. It was found that the cues to action included care from children and grandchildren and public health workers. It affected the self-care of the elderly. The self-efficacy factor was the confidence in the self-ability of the elderly, which was very important, if the elderly were not confident in their own abilities, they would not be able to change their behavior, and the threat perception factor was the condition of starting to have abnormal symptoms that threaten daily life, making it important to take care of yourself to prevent choking of the elderly such as onset of choking while swallowing food, etc.. Therefore, the elderly were afraid of food stuck in their throats and can cause death. It was found that all three factors affected self-care behavior to prevent choking among the elderly in Hua Tai Sub-district, Bang Khla District.

SUGGESTIONS

1. Suggestions for the application of the research findings

1.1 The results of the study showed that dysphagia in the elderly based on health beliefs model among the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province: Perception of obstacles is generally moderate, and has the last and lowest averages. It is noted that: Their children and grandchildren still lack knowledge about food suitable for the elderly. Therefore, it is recommended that health workers sub-district health promoting hospitals, district health offices, provincial health office should support and promote health education and self-care behaviors of the elderly to prevent choking among caregivers of the elderly and their children. This is to avoid problems or obstacles for themselves in living life and use it to promote health which would allow the elderly to have a good quality of life.

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1.2 The study results showed that if income adequacy and underlying diseases were different, dysphagia in the elderly based on health beliefs of the elderly in Hua Sai sub-district was different. Therefore, it is recommended that the relevant agencies integrate economic assistance for the elderly, such as local government organizations, to support the budget for career promotion to increase income. Public health agencies support health education lecturers. Social Development and Human Security supports speakers and projects to improve the quality of life of the elderly to have a stable life, as well as the principle of saving money so that they have enough income and know how to save for when necessary and take care of themselves to prevent illnesses of underlying diseases.

1.3 The results of the study showed that the stimulating factors They can jointly predict self-care to prevent choking of the elderly in Hua Sai Sub-district, Bang Khla District, Chachoengsao Province, 43.60 percent. Therefore, it is recommended that health workers should encourage caregivers or their children who take care of the elderly. Health professionals must also monitor and evaluate the application of knowledge seriously so that it can be practiced and encourage awareness of good health. In addition, it encourages the elderly to be confident in their own performance and motivate them to continue to practice, and to educate them about the symptoms that threaten the lives of the elderly so that they are aware and change their behavior for the better.

1.4 Recommend to the Provincial and District Public Health Offices and Hua Sai Sub-district Health Promotion Hospital. The findings are used as a guideline for the prevention of dysphagia in the elderly and applied to the health care of the elderly. To prevent choking complications and to promote a good quality of life of the elderly in Chachoengsao Province and to serve as a model for others.

2. Suggestions for conducting the next research

2.1 Guidelines for the prevention of dysphagia in the elderly in Thailand should be studied both quantitatively and qualitatively.

2.2 There should be a study in the form of R&D to study the effect of the model of enhancing health beliefs of the elderly and their families on the modification of health behavior of the elderly in Thailand.

2.3 This study collected data on only one elderly person in Hua Sai sub-district, which is data that may affect the area level. The next study should be conducted on the elderly in other areas of the country. To provide information on dysphagia in the elderly according to the concept of health beliefs of the elderly. In a more detailed picture.

2.4 Other health belief factors that influence the self-care behavior of the elderly should be studied as a guide for creating a program to increase the capacity to prevent choking from dysphagia in the elderly to have a good quality of life as an elderly person who can continue to benefit.

2.5 There should be a study on the capabilities, problems, obstacles and guidelines to prevent choking from dysphagia of the elderly in those involved in caring for the elderly, including: Village public health volunteers, elderly caregivers, and staff of the sub-district health promotion hospital for information on capacity building in such groups.

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