พฤติกรรมการรับประทานอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อมในชุมชน และการจัดการของผู้ดูแล

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บทคัดย่อ

ผู้สูงอายุที่มีภาวะสมองเสื่อมนำมาสู่การเปลี่ยนแปลงพฤติกรรมเกี่ยวกับการบริโภคอาหารไม่เหมาะสม ส่งผลกระทบต่อคุณภาพชีวิตของผู้สูงอายุและความต้องการในการจัดการของผู้ดูแลในครอบครัว การศึกษาเชิงพรรณนามีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการบริโภคอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อม การจัดการของผู้ดูแลและปัจจัยที่มีความสัมพันธ์กับพฤติกรรมการบริโภคอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อม ในจังหวัดหนึ่งทางภาคตะวันออกเฉียงเหนือ ระหว่างเดือนมิถุนายน พ.ศ. 2564 ถึง มกราคม พ.ศ. 2565 กลุ่มตัวอย่างเป็นผู้ดูแลในครอบครัวและผู้สูงอายุที่มีภาวะสมองเสื่อม จำนวน 117 คู่ เครื่องมือที่ใช้ในการวิจัย ประกอบด้วย แบบสอบถามข้อมูลส่วนบุคคล แบบประเมินพฤติกรรมการรับประทานอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อม โดยมีค่าความเที่ยงระหว่างผู้ประเมินของแบบประเมินพฤติกรรมการรับประทานอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อมเท่ากับ .77 และแบบสอบถามการจัดการพฤติกรรมการรับประทานอาหารของผู้ดูแลผู้สูงอายุที่มีภาวะสมองเสื่อม มีค่าความเชื่อมั่นเท่ากับ .88 วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา และสถิติไคสแควร์ ผลการวิจัย พบว่า พฤติกรรมการรับประทานอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อม ประกอบด้วย 1) พฤติกรรมไม่ยอมไปห้องอาหารโต๊ะอาหารหรือบริเวณที่ใช้รับประทาน 2) ต้องการรับประทานอาหารในช่วงเวลาที่ไม่ใช่มื้ออาหาร และ 3) ไม่เคี้ยวอาหารก่อนกลืน ส่วนด้านการจัดการของผู้ดูแล พบว่า ผู้ดูแลรอให้ผู้สูงอายุมีอาการสงบก่อนแล้วจึงชวนให้รับประทาน และแสดงวิธีการรับประทานอาหารให้ดูเป็นตัวอย่าง และยังพบปัจจัยด้านอายุของผู้ดูแลมีความสัมพันธ์กับพฤติกรรมการบริโภคอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อมอย่างมีนัยสำคัญทางสถิติ ($p<.05$) ผลการศึกษานี้ควรแนะนำให้ผู้ดูแลได้รับการฝึกทักษะในด้านการดูแลและการจัดการพฤติกรรมการบริโภคอาหารของผู้สูงอายุที่มีภาวะสมองเสื่อมอย่างเหมาะสมโดยคำนึงถึงปัจจัยด้านอายุของผู้ดูแลผู้สูงอายุที่มีภาวะสมองเสื่อมเป็นสำคัญ

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Food consumption behaviors among older persons with dementia in community and management of caregivers

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Abstract

Older persons with dementia often have behavioral changes related to inappropriate food consumption behavior, which can negatively impact their quality of life and require changes in caregiving and management by caregivers. This descriptive study, conducted between June 2021 and January 2022, aimed to investigate the food consumption behavior and management of caregivers and factors associated with older persons with dementia in a specific province in the northeastern region of Thailand. The samples were 117 pairs of family caregivers and older persons with dementia. The research tools consisted of a personal information questionnaire, The Food Consumption Behavior Assessment for Older Persons with Dementia Scale with the reliability between a food consumption behavior assessment for older persons with dementia was .77, and The Food Consumption Behavior Management for Caregivers of Older Persons with Dementia Scale which had a reliability value of .88. Descriptive statistics and chi-square statistics were used to analyze the data. The results showed that the eating behaviors of older persons with dementia consisted of: 1) refusing to go to the dining room, table, or eating area; 2) wanting to eat at non-mealtimes, and 3) not chewing food before swallowing. As for the management of the caregivers, it was found that caregivers waited for the older persons to calm down before inviting them to eat and showing them how to eat. In addition, there was a statistically significant correlation between the age factor of caregivers and the dietary behavior of older adults with dementia ($p<.05$). The results of this study could recommend training skills in appropriate care and management of dietary behaviors of older persons with dementia, which are considered with the age factor of the caregivers of older persons with dementia.

Keywords: Dementia, Older persons, Food consumption behaviors, Management of caregivers, Community

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Introduction

Dementia in older persons is a significant public health problem worldwide. The prevalence of the problem is found in developing countries and increases with advancing age. In 2001, a survey was conducted on the number of older persons with dementia worldwide for the first time. At the time, the prevalence was 21 million people with most cases occurring in America and Europe. In Asia, Japan found the number of dementia cases to double every 20 years. It is expected that the number of older persons with dementia will increase to 40 million and 81 million people in 2020 and 2040, respectively (Ferri et al., 2005). Dementia is a symptom cluster that affects memory, thinking, behavior, and daily activities. These symptoms can include difficulty recognizing changes in the environment, difficulty with language, poor concentration, and difficulty interacting with others (World Health Organization, 2020). This condition not only impacts the quality of life of older persons with dementia but also affects their relatives and family caregivers, as they are often cared for at home. According to data from 2020, Thailand has approximately six hundred thousand people with dementia, with projections estimating the number to reach 1 million in the next two decades. Older people, particularly those over 80, have a 50% incidence rate of dementia. The highest concentration of dementia patients is found in Bangkok Metropolis and the Northeastern region (Adulyanukosol, 2022).

As the condition progresses, older persons with dementia need people to take care of them. Family caregivers must care for demented patients 24 hours a day (Atsantachai, 2017). Furthermore, older persons with dementia require recovery of the activities of daily living and maintenance of functions (Atsantachai, 2017; Ruangsinpinya & Muangphaisa, 2018), and dementia-afflicted older persons with chronic illnesses can consume inappropriate food. The calories received per day might not be balanced as they receive insufficient nutrition from the body, depending on many factors such as the type, quantity, and frequency of food consumption. Older persons with dementia can have difficulty putting food into their mouths, chewing, and swallowing (Bernstein & Munoz, 2019). Thus, daily calories might not be balanced as these elders receive insufficient or unsuitable nutrition for their physical conditions (Moreno-Cámara et al., 2019). Family caregivers are crucial in caring for older persons with dementia, providing care, and managing financial matters. As the condition progresses, older persons with dementia require constant care, with family caregivers often providing 24-hour support. The primary goal of caring for older persons with dementia is maintaining their food consumption, life safety, and daily living as close to standard as possible. These efforts can help slow down brain degradation and improve brain function recovery. Hence, family caregivers have an essential role in caring for older persons with dementia regarding caregiving and medical expenses (Crawley & Hocking, 2011; Ruangsinpinya & Muangphaisan, 2018; World Health Organization, 2020).

Regular assessment and observation of repetitive behavior for safety in daily activities such as walking, sitting, sleeping, eating, and toileting is required among older dementia patients, while implementing home modifications such as clear walkways and stable item placement can enhance safety. Family caregivers should also assess home environments for safety, including the bathroom, dining room, kitchen, and elevated areas, making necessary changes such as installing

rails and help signal buttons. Regarding eating habits, a swallowing test should be conducted to assess any issues and teach proper techniques. Suitable foods and feeding methods should be designed, and any abnormalities should be noted. If complete swallowing defects are present, the caregiver should work with a physician to utilize a nasopharyngeal feeding tube, and caregivers should be trained in its use (Ross & Bowen, 2002; Adulyanukosol, 2022). Based on the literature reviews relating to food consumption and the nutritional condition of older persons with dementia, we can see that the research findings differ in many studies, depending on the area contexts in the research.

According to systematic literature reviews conducted domestically and abroad, there are different plans, cultural formats, and beliefs on food consumption in urban and rural areas (Liu, Galik, Boltz, Nahm, & Lerner, 2014). Moreover, it was found that studies of the food consumption behaviors of older persons with dementia in rural communities in Northeastern Thailand are limited. Hence, knowledge and understanding in the context of older persons with dementia are insufficient to understand how to manage food consumption behaviors for older persons with dementia. Furthermore, different lifestyles in consuming food, culture, and beliefs in rural communities caused the researcher to be interested in studying the food consumption behaviors of older persons with dementia in Northeastern communities in Thailand. The researcher expects the findings of this research to help build an understanding of the food consumption behaviors of older persons with dementia and the management of caregivers in these communities as a guideline in work and planning to care for older persons in Thai society. Food consumption behaviors are shaped by social and cultural influences and can impact physical health, such as the type of food consumed, the number of meals, and food consumption hygiene. This study aimed to analyze the food consumption behavior, management of caregivers, and factors associated with older persons with dementia in a specific province in the northeastern region of Thailand.

Research Objectives

1. To describe the food consumption behavior of older persons with dementia in the community in one province located in the northeastern region of Thailand
2. To describe the management of caregivers in taking care of older persons with dementia in a community in one province located in the northeastern region of Thailand
3. To study the factors related to the food consumption behavior of older persons with dementia in the northeastern region of Thailand

Research Methodology

This study was descriptive research on the food consumption of older persons with dementia and the management of caregivers in the community studied. The population in this study was older persons with dementia and caregivers in the community under the Office of Public Health of Roi Et and was conducted between June 2021 and January 2022.

The samples in this study were selected by purposive sampling. The sample group used in this study consisted of two sample groups.

1. Sample Group 1 was older persons with dementia in the community under the care of the Office of Public Health of Roi Et. The inclusion criteria were as follows: (1) age from 60 years and over; (2) diagnosis of any stage of dementia by a physician; (3) oral food consumption only; and (4) provision of informed consent by the patient, a relative or person responsible for the older persons to join the research. The exclusion criteria were as follows: (1) refusal of the older person and relative/responsible people to provide data in the research; (2) restlessness on the part of the older person and refusal to stay still while collecting research data; and (3) older persons with dementia in the community who have no attendant. In all, the older persons with dementia accounted for 117 of the participants.

2. Sample Group 2 was caregivers of older persons with dementia in the community under the care of the Office of Public Health of Roi Et with inclusion criteria as follows: (1) ability to talk and communicate in Thai; (2) willingness to cooperate in the research, and (3) regular provision of help in eating. The exclusion criteria were as follows: caregivers of older persons with dementia in the community studied who refused to provide data in the research. The family caregivers taking care of the older persons with dementia accounted for 117 participants.

Research Instruments and Quality Assessment

The instruments used in the research consisted of 4 sets. The research employed a set of well-validated tools, including The Personal Information Questionnaire for Older Persons with Dementia, The Caregiver Characteristics Questionnaire, The Food Consumption Behavior Assessment for Older Persons with Dementia Scale, and The Consumption Behavior Management for Caregivers of Older Persons with Dementia Scale. These tools underwent stringent quality checks to ensure their validity and reliability.

1) The Personal Information Questionnaire for Older Persons with Dementia:

This comprehensive questionnaire, encompassing 16 sections, was designed based on an extensive literature review and covered a wide range of areas such as personal data, health, education, marital status, religion, living conditions, chronic diseases, family, income, phone and app usage, and welfare utilization. This questionnaire was used to gather essential demographic and health-related information from the older persons with dementia in the community studied.

2) The Caregiver Characteristics Questionnaire:

The researcher created a caregiver characteristics questionnaire consisting of nine sections tailored to the Thai context. This questionnaire focused on caregiver age, status, gender, education, marital status, religion, personal condition, family, and rights/welfare utilization. Its design was informed by a literature review and was intended to capture relevant information about the caregivers.

3) The Food Consumption Behavior Assessment for Older Persons with Dementia Scale:

Adapted from Durngaugh & Roberts (1996) and translated by Chotchaisthit (2019), this assessment form consisted of 29 sections and delved into the food consumption behavior of older persons with dementia over the month preceding data collection. The questionnaire utilized dichotomous (yes or no) questions, exploring various aspects of eating

behavior, and covered four key areas: denying/refusing behavior, oral-cavity behavior, eating plan behavior, and eating format behavior.

To establish meticulous validity and reliability, a comprehensive process was undertaken. Content validity underwent thorough verification by a panel of three experts comprising a physician, a nurse instructor specialized in older persons, and a nurse with experience in dementia care. This rigorous evaluation resulted in an impressive Content Validity Index (CVI) of .97. Incorporating the expert recommendations, adjustments were implemented prior to the initiation of data collection. To ensure the robustness of reliability, the questionnaires underwent pretesting with two distinct groups: older individuals diagnosed with dementia and caregivers who shared similar characteristics with the study participants. The outcome of this pretesting phase yielded a commendable interrater reliability coefficient of .77.

4) The Consumption Behavior Management for Caregivers of Older Persons with Dementia Scale:

Derived from the foundational work of Durngaugh & Roberts in 1996 and expertly translated by Chotchaisthit in 2019, the assessment form utilized in this study encompassed 41 comprehensive sections. This instrument provided a profound exploration into the dietary behaviors exhibited by older individuals grappling with dementia in the month leading up to the data collection phase. Employing a binary (yes or no) response format, the questionnaire meticulously probed various facets of eating behavior, spanning across four pivotal domains: manifestations of denial or refusal, oral-cavity dynamics, adherence to dietary plans, and preferences in eating approach. Notably, the evaluation of internal consistency yielded a robust confidence coefficient of .88, unequivocally affirming the reliability and homogeneity of the amassed data. This instrument was exhibited a high level of internal consistency and was indicated by a confidence value of .88, thereby affirming the reliability and consistency of the gathered data.

Ethical Considerations

In terms of human rights protection, the researcher submitted this research proposal to the Faculty's International Review Broad (IRB) and was approved by the ethics committee of medicine, Ramadhibodi Hospital, Mahidol University (No COA.MURA2021/588). Next, the researcher proposed this research to the group developing service quality and formats, the Office of Public Health of Roi Et (No RO.0032.008/5140) from 19 July 2021 to 18 July 2022. Therefore, before collecting data, the researcher preserved the human rights of the sample group by notifying them of the research objectives, data collection procedures, potential benefits, or impacts stemming from participation in this research project. The researcher offered an opportunity for the research project participants to ask various questions before signing up to join the research project willingly. The research project participants were always allowed to withdraw from the research without notifying the results of the researcher by withdrawing from the research without any impact on the treatment of patients. In addition, in this study, the researcher trained four healthcare provider assistants in the utilization of the research tools. The introduction to the research was followed by an explanation of its objectives, the steps involved in data collection, the advantages of participating in the research, and a request for collaboration in posing queries to both the older persons with

dementia and their caregivers within the community studied. Clarity was provided to the sample group composed of older persons with dementia and their caregivers regarding their right to participate in the research. The participants were assured of their ability to discontinue their involvement at any juncture. In instances of uncertainty, participants were granted access to research data before finalizing their decision to participate. Those who opted to participate signed a consent form, thereby initiating the data collection process.

Data Collection

The data collection process encompassed the comprehension of six distinct sets of questions spanning personal and health-related inquiries relevant to older persons with dementia in the community studied. The caregivers were presented with these questions individually, and their responses were recorded as they made their selections. The researcher's role was impartial, merely facilitating responses and addressing caregiver queries without influencing their answers. The questionnaire completion timeframe ranged from 15 to 20 minutes. For caregivers unable to provide immediate responses, arrangements were made for scheduled telephone interviews to ensure data collection convenience. After data collection, notable findings emerged indicating issues related to eating among older persons with dementia and community caregivers. In response, the research provided informed dietary recommendations. These recommendations were formulated based on the insights garnered from caregivers' contributions and involved collaboration with the responsible nurses at the Sub-district Health Promotion Hospital to develop practical solutions. To ensure the integrity of the data, the researcher undertook a meticulous verification process to ascertain both completeness and validity. Instances, where data were found to be incomplete, prompted the researcher to revisit willing participants and administer the same questionnaire once more. This iterative process persisted until the desired sample size was achieved. Ultimately, the collected data underwent meticulous preparation and were subjected to rigorous statistical analysis to allow for the extraction of meaningful insights in line with the research objectives.

Data Analysis

Data were analyzed by using a computer program for processing the characteristics of the sample group, health information of the sample group, and caregivers by descriptive statistics. The part on food consumption of older persons with dementia and the management of caregivers in the community were analyzed by descriptive statistics with frequency, percentage, and mean for categorical distribution. Also, factors related to the food consumption behavior of older persons with dementia were analyzed by using the Chi-square test.

Results

The results of this study were divided into 3 parts as follows:

1. The personal data of older persons with dementia

The analyzed data of the 117 older persons with dementia in the community showed a majority of females (54.70%) versus males (45.30%). Ages ranged from 65 to 89 years with the highest representation in the 65-75 age group (49.57%), followed by 76-80 (32.48%) and 81-89 (17.95%). Most participants had primary education levels (99.15%), while marital status varied

with 51.28% married, 34.19% widowed, and 14.53% single. Income sufficiency revealed 56.41% to have sufficient income with savings, and 53.59% to have sufficient income with no savings. In terms of functional independence (Barthel ADL Index), 69.23% had moderate (Score 9-11) and 30.77% severe (Score 5-8) levels. Regarding body mass index (BMI), the distribution was as follows: underweight (0.86%), normal weight (7.69%), overweight (22.22%), Level 1 Obesity (33.33%), and Level 2 Obesity (35.90%), as shown in Table 1.

Table 1. Characteristics and health information of community-based older persons with dementia

Characteristics	Number	Percentage
Gender		
Male	53	45.30
Female	64	54.70
Age (yrs.)		
65-75	58	49.57
76-80	38	32.48
81-89	21	17.95
Educational Level		
No Education	1	0.85
Primary Education	116	99.15
Marital Status		
Single	17	14.53
Married	60	51.28
Widowed	40	34.19
Income Sufficiency		
Sufficient, Savings	66	56.41
Sufficient, No Savings	51	53.59
Barthel ADL Index		
Severe (Score 5-8)	36	30.77
Moderate (Score 9-11)	81	69.23
Body Mass Index: BMI (kg/m^2)		
Underweight (<18.5)	1	0.86
Normal Weight (18.5–22.99)	9	7.69
Overweight (23–24.99)	26	22.22
Obesity Level 1 (25–29.99)	39	33.33
Obesity Level 2 (30 or greater)	42	35.90

2. The Characteristics of family caregivers

The data set of family caregivers consisted of 117 participants with a gender distribution of 31.62% males versus 68.38% females. In terms of age, the range varied from 28 to 49 years with the majority falling within the 28-35 age group (41.88%), followed by 36-40 (22.22%), 41-45 (31.62%), and 46-49 (4.27%). Regarding educational background, the participants had a distribution of 34.18% with high school diplomas, 15.39% with vocational training certificates, and 50.43% holding bachelor's degrees. Marital status was divided between 29.91% single and 70.09% married individuals. Family roles consisted of 44.44% as heads of the household and 55.56% as family members. In terms of health care insurance rights, 58.97% had universal

coverage, while 41.03% had civil servants and social security scheme (SSS) Medical benefits, as shown in Table 2.

Table 2. Characteristics of family caregivers caring for community-based older persons with dementia

Characteristics	Number	Percentage
Gender		
Male	37	31.62
Female	80	68.38
Age Range (yrs.)		
28-35	49	41.88
36-40	26	22.22
41-45	37	31.62
46-49	5	4.27
Educational Level		
High School Dip.	40	34.18
Vocational	18	15.39
Bachelor's Degree	59	50.43
Marital Status		
Single	35	29.91
Married	82	70.09
Family Membership		
Head of the Household	52	44.44
Family Member	65	55.56
Health Care Insurance Rights		
Universal Coverage	69	58.97
Civil Servants & SSS Medical Benefits	48	41.03

2. The food consumption behaviors of older persons with dementia and management of family caregivers living in the community

The data provided gives us valuable insights into how older individuals with dementia behave and how family caregivers manage those behaviors. The table shows different behaviors and their occurrence rates. For instance, denying/refusing behavior happens around 21.12 times on average, making up about 25.37% of cases. Oral cavity behavior, occurring about 20.88 times on average, accounts for 25.08%. Additionally, behaviors related to eating plans and eating formats happen around 20.80 and 20.44 times on average, with corresponding percentages of 24.99% and 24.56%. Caregivers' strategies are also highlighted: managing denying/refusing behavior happens around 21.14 times on average, making up 33.01%; managing oral-cavity behavior is seen about 11.07 times on average, or 17.28%; managing behavioral aspects of eating patterns occurs approximately 14.42 times on average, or 22.51%; and finally, managing behavioral aspects of eating formats happens about 17.42 times on average, or 27.20%. This information gives us a clearer picture of these behaviors and the caregiver's role in addressing them as shown in Table 3.

Table 3. Percentage of food consumption behaviors of older persons with dementia and management of family caregivers who living in the community

Food Consumption Behavior	Food Consumption Behavioral findings	
	Mean (Number of times)	Percentage
Behavior of Older Persons with Dementia		
1) Denying/Refusing Behavior	21.12	25.37
2) Oral cavity behavior	20.88	25.08
3) Behavior on eating plans	20.80	24.99
4) Eating format behavior	20.44	24.56
Management of Family Caregivers		
1) Management of denying/refusing Behavior	21.14	33.01
2) Oral-cavity behavior management	11.07	17.28
3) Behavioral management of eating patterns	14.42	22.51
4) behavioral management of eating formats	17.42	27.20

2. Factors related to the food consumption behavior of older persons with dementia

The study analyzed the relationship between the personal factors of caregivers and the food consumption behavior of older persons with dementia, as well as the management of caregivers living in the community studied. The table provided displays the personal factors of caregivers and the food consumption behaviors of community-based older persons with dementia. The p-values indicate the significance of the relationships between these factors and food consumption behaviors. The characteristics include gender, age group, educational level, BMI category, and other attributes of older persons and family caregivers. The results found that the age of caregivers was significantly correlated with the dietary behavior of older persons with dementia ($p<.05$), as shown in Table 4.

Table 4. The relationship between personal factors of caregivers and food consumption behaviors of community-based older persons with dementia

Characteristics	Food consumption behaviors of older persons		*p*-value
	Number	Percentage	
Older Persons			
Gender			
Male	53	45.29	0.26
Female	64	54.71	
Age (yrs.)			
65-75	58	22.22	0.61
76-80	38	31.63	
81-89	21	4.27	
Education			
No Education	1	0.85	0.95
Primary	116	99.15	
BMI			
Underweight	1	0.86	0.17
Normal Weight	9	7.69	
Overweight	26	22.22	
Level 1 Obesity	39	33.33	
Level 2 Obesity	41	35.90	

Characteristics	Food consumption behaviors of older persons		*p*-value
	Number	Percentage	
Family Caregivers			
Gender			
Male	37	31.62	0.38
Female	80	68.38	
Age (yrs.)			
28-35	49	41.88	0.03*
36-40	26	22.22	
41-45	37	31.63	
46-49	5	4.27	
Education			
High School Diploma	40	34.18	0.64
Vocational Certificate	18	15.39	
Bachelor's Degree	59	50.43	

*p< .05

Discussion

This descriptive study explored food consumption behavior, caregiver management, and related factors among older persons with dementia in a specific northeastern province of Thailand. The study involved 117 pairs of participants older persons with dementia and their primary caregivers within the community studied. Thus, the food consumption behavior of older persons with dementia in the community and the management of caregivers in one province located in the northeastern region were examined. The findings shed light on the food consumption behavior among the elderly in this region. The findings align with previous research by Chotchaisthit (2019), Aukner, Eide, & Iversen (2013), and Marino de Oliveira Ramos & Chaiarello (2015), underscoring the vital role of caregivers in ensuring sufficient food intake. A significant portion of the community faces nutritional challenges, primarily Level 1 and 2 obesity, influenced by dietary habits such as sticky rice consumption and limited physical activity. Denial or refusal behavior is notably prevalent among those with dementia during mealtimes, often due to memory-related challenges. Caregivers' struggles to comprehend the needs of dementia patients contribute to fatigue, which is consistent with the findings of Chotchaisthit (2019). Brain damage affecting the hippocampus leads to communication and behavior difficulties manifested as denial or refusal behavior. The study revealed that caregivers employ communication strategies, promote autonomy, and adapt to the environment to manage food consumption, addressing factors such as distractions and foraging tendencies. A study by Durngaugh & Roberts (1996) similarly highlights malnutrition risks in Alzheimer's patients due to reduced physical activity and diminished hunger recognition. Caregivers must tailor management techniques based on dementia stages and incorporate environmental adjustments to enhance safety.

This study aimed to investigate the factors related to the food consumption behaviors of older persons with dementia, and its findings are congruent with the research conducted by Chotchaisthit (2019). Among the diverse assessments performed, it was established that the age of family caregivers was significantly correlated with the dietary behavior of older persons (p<.05). Conversely, gender and education did not demonstrate significant correlations with

dietary behavior or caregiver management. However, the age of caregivers, particularly in the 28-35 age range, exhibited a noteworthy connection with the food behavior of older persons (p<.05), aligning with findings from previous studies on elder care and food behavior in Loei Province's Muang District (Ross & Bowen, 2002). The research underscores that food consumption behavior is intricately linked with the quality and quantity of food provided to older persons, underscoring the imperative for caregivers to be equipped to address their diverse needs throughout various life stages (Nasok & Panomai, 2019). Notably, the study identified a significant risk of malnutrition among older persons with dementia primarily attributable to reduced physical activity such as walking. These individuals often exhibit diminished awareness of hunger leading to less frequent and smaller meals. Consequently, behaviors such as denying/refusing and forgetfulness regarding available food become prevalent. To address these challenges, caregivers must adapt their management practices to support the older person's feeding ability (Marino et al., 2015; Siwichian, 2016; Nasok & Panomai, 2019). Caring for older persons with dementia necessitates caregivers to modify their practices to ensure the safety and well-being of older persons in their daily routines. This includes assessing the capacity of older persons to protect themselves, maintaining a clean and safe environment, implementing home modifications for enhanced safety and usability, and conducting swallowing tests to identify and address any issues related to food consumption (Liu et al., 2014; Liu, Galik, Boltz, Nahm, & Lerner, 2016; Kanin, Tatree, & Thanakamon, 2020). In cases of complete swallowing difficulties, caregivers should collaborate with physicians to consider nasopharyngeal tube feeding and receive appropriate training in its administration (Siwichian, 2016; Ramage-Morin, Gilmour, & Rotermann, 2017; Nasok & Panomai, 2019). These study findings hold significant implications for healthcare providers, enabling them to better assess food consumption behaviors and improve their caregiving practices in line with research by Lyketsos et al. (2002), Yannakouli et al. (2018), and Wahl et al. (2019). It is essential to develop and extend training programs to caregivers and relevant stakeholders to foster awareness and understanding of nutrition challenges within communities. Regular follow-up and supervision of care practices are crucial to ensure the well-being of older individuals with dementia. The study's implications also extend to academic institutions and local organizations specializing in elderly care, as collaboration with local administrative bodies can facilitate the integration of these insights into community-level care strategies, ultimately enhancing the overall quality of care provided to this demographic.

Recommendations

Recommendations for Applying Research Results

1. The research findings revealed a significant correlation between the age of caregivers and dietary behavior of older persons with dementia (p<.05). As a result, there is a call for training caregivers about appropriate techniques for managing the dietary behaviors of older persons with dementia, taking into account the age factor of the caregivers themselves. This holistic approach aims to enhance the care and support provided to this vulnerable demographic.

2. The study identified specific eating behaviors among older persons with dementia including: 1) avoidance of dining areas; 2) desire to eat outside regular mealtimes and 3) challenges

in chewing food before swallowing. Caregiver management strategies involve waiting for older persons to calm down before inviting them to eat and demonstrating proper eating techniques.

Recommendations for Further Study

Future studies should consider researching a larger sample or population to enhance the generalizability of the findings. Additionally, it is essential to control for potential confounding variables such as the accuracy of data collection regarding the observation of eating behavior by caregivers of older persons with dementia in the community. Conducting further studies with these considerations will contribute to advancing knowledge in the field and improving the understanding of caregiving practices on the impact on the nutritional well-being of older persons with dementia in the community.

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References

Adulyanukosol, N. (2022). *TDJ Dementia in Thailand, Dementia, is Thailand ready?*. Retrieved October, 2, 2022, from https://tabsoft.co/2OvbEG5.

Atsantachai, P. (2017). *Common health problems in the elderly and their prevention*. Department of Preventive Social Medicine Faculty of Medicine Siriraj Hospital. Bangkok Thailand.

Aukner, C., Eide, H. D., & Iversen, P. O. (2013). Nutritional status among older residents with dementia in open versus special care units in municipal nursing homes: an observational study. *BMC geriatrics, 13*(1). 1-7.

Bernstein, M., & Munoz, N. (2019). *Nutrition for the older adult* (3th ed.). Burlington: Jones & Bartlett Learning.

Chotchaisthit, P. (2019). *Nutritional status food consumption in elderly persons with dementia and management of caregivers* (Master of Nursing Science Program in Gerontological Nursing). Mahidol University. Thailand.

Crawley, H, & Hocking, E. (2011). *Eating well: supporting older people and older people with dementia*. UK: Caroline Walker Trust.

Durnbaugh, T. & Roberts, S. (1996). Assessing problem feeding behaviors in mid-stage Alzheimer's disease: clients with mid-stage Alzheimer's disease may be eating far less than their caregivers believe. *Geriatric Nursing, 17*(2). 63-67.

Ferri, C. P., Prince, M., Brayne, C., Brodaty, H., Fratiglioni, L., Ganguli, M., … Alzheimer's Disease International (2005). Global prevalence of dementia: a Delphi consensus study. *Lancet (London, England)*, *366*(9503). 2112–2117. doi: 10.1016/S0140-6736(05)67889-0

Kanin, M. N. M., Tatree, B., & Thanakamon, L. (2020). Nutritional status and associated factors among elderly people in primary care center. *GSCARR*, *2*, 28-35.

Liu, W., Cheon. J. & Thomas, S.A. (2014). Interventions on mealtime difficulties in older adults with dementia: a systematic review. *International Journal of Nursing Studies. 51*(1). 14-27.

Liu, W., Galik, E., Boltz, M., Nahm, E. S., Lerner, N., & Resnick, B. (2016). Factors associated with eating performance for long-term care residents with moderate-to-severe cognitive impairment. *Journal of Advanced Nursing, 72*(2), 348–360. doi:10.1111/jan.12846

Lyketsos, C. G., Lopez, O., Jones, B., Fitzpatrick, A. L., Breitner, J., & DeKosky, S. (2002). Prevalence of neuropsychiatric symptoms in dementia and mild cognitive impairment: results from the cardiovascular health study. *The Journal of the American Medical Association, 288*, 1475–83.

Marino, L. V., Ramos, L. F., & Chiarello, P. G. (2015). Nutritional status according to the stages of Alzheimer's disease. *Aging clinical and experimental research*, *27*(4), 507–513. doi:10.1007/s40520-014-0302-3

Moreno-Cámara, S., Palomino-Moral, P. Á., Moral-Fernández, L., Frías-Osuna, A., Parra-Anguita, L., & Del-Pino-Casado, R. (2019). Perceived needs of the family caregivers of people with dementia in a Mediterranean setting: a qualitative study. *International journal of environmental research and public health*, *16*(6), 993. doi:10.3390/ijerph16060993

Nasok, W. & Panomai, P. (2019). Food consumption behavior and factors affecting nutritional status of elderly in Muang district, Loei province. *Research and Development Journal, Loei Rajabhat University,* 1494-105.

Ramage-Morin, P. L., Gilmour, H., & Rotermann, M. (2017). Nutritional risk, hospitalization and mortality among community-dwelling Canadians aged 65 or older. *Health Reports*, *28*(9), 17–27.

Ross, G. W., & Bowen, J. D. (2002). The diagnosis and differential diagnosis of dementia. *The Medical Clinics of North America, 86*(3), 455-476. doi:10.1016/s0025-7125(02)00009-3

Ruangsinpinya, P. & Muangphaisan, W. (2018). *Prevention of dementia. In Challenges and Solutions for Healthy Aging*: Printmaking Co., Ltd. Nonthaburi.161-170.

Siwichian, T. (2016). A study of the nutritional status and the factors relating to malnutrition status of the elderly receiving health service from pompet community medical center. *Journal of Preventive Medicine Association of Thailand, 6*, 119-130.

Wahl, D., Solon-Biet, S. M., Cogger, V. C., Fontana, L., Simpson, S. J., Le Contour, D. G., … Ribeiro, R. V. (2019). Aging, lifestyle, and dementia. *Neurobiology of Disease, 130*, e104481.

World Health Organization. (2020). *Dementia*. Retrieved December 1, 2020, from https://bit.ly/2JA83nx.

Yannakouli, M., Mamalakia, E., Anastasioua, C.A., Mourtzi, N., Lambrinoudaki, I., & Scarmeas, N. (2018). Eating habits and behaviors of older people: Where are we now and where should we go? *Maturitas, 114*, 14-21.