Factors associated with dementia screening competency of village health volunteers in an urban primary care unit of Songkhla Province.

Panida Sukjai, Phanthiwa Khachenniam, Piathip Yisuy, Pattraprapa Jongsoo, Benyathip Deengam and Phanit Leecharoen*
Boromarajajonani College of Nursing Songkhla, Faculty of Nursing, Praboromarajchanok Institute

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Abstract

This descriptive correlational research aimed to study the factors associated with village health volunteers' dementia screening competency in an urban primary care unit in Songkhla Province. Data were collected using questionnaires: the Dementia Knowledge Questionnaire, the Attitude Questionnaire, the Receiving Health Policy Questionnaire, and the Social Support Questionnaires from Nurses, Family, and Friends. The study involved 173 village health volunteers who worked in an urban primary care unit in Songkhla Province. Power analysis, with an effect size of 0.3, an alpha of 0.05, and a power of 0.95, was used to determine the sample size. Multi-stage sampling was employed to select the samples

Descriptive statistics, including frequency, percentge, and standard deviation, were used to analyze the characteristics of the samples. The Pearson correlation coefficient was used to examine the relationships between the associated factors and the dementia screening competency of the village health volunteers. The study showed that several factors were positively correlated with dementia screening competency among village health volunteers. These included: Predisposing Factors: Attitudes towards dementia care ($r = 0.16$, $p \leq 0.04$). Enabling Factors: Receiving health policy support ($r = 0.45$, $p \leq 0.001$) and access to information ($r = 0.49$, $p \leq 0.001$). Reinforcing Factors: Social support from nurses ($r = 0.46$, $p \leq 0.001$), family ($r = 0.40$, $p \leq 0.001$), and friends ($r = 0.31$, $p \leq 0.001$).

These findings suggest that healthcare providers can consider these factors when seeking to improve the dementia screening competency of village health volunteers.

Keywords: Competency, Dementia Screening, Dementia Care,Village Health Volunteers, Primary Care Unit

Corresponding author: Phanit Leecharoen E-mail: Phanit.l@bcnsk.ac.th

Introduction

Nowadays, the number of people living with dementia is continually increasing. The World Health Organization reported that there have been more than 55 million people living with dementia worldwide, and 10 million new cases per year (World Health Organization, 2023). The survey research on the Thai older people population found that there were 239,189 older people aged 60 years and over in Songkhla province (Department of Older Persons, 2021). A study found that 8 percent of older adults aged 60 years and over had dementia symptoms (Naheet, 2023), thus estimating that 19,135 older people might live with dementia in Songkhla now. These large numbers of dementia population may greatly affect the public health service system.

Dementia is a group of symptoms caused by declining brain function which affects memory, thinking, and the ability to perform daily activities. Three stages of dementia can be divided by severity of dementia, the early, the second, and the third, as the period time of dementia increases, dementia gets worse (World Health Organization, 2023). There are different types of causes of dementia, although most dementia are not preventable and curable, some can be prevented such as vascular dementia, tumor, or infection. Prevention and slowing down the progression of brain decline might be done effectively by early detection at an early stage of dementia. Dementia is a significant health issue among older people worldwide, including in Thailand. It ranks as one of the leading causes of death among the elderly. Dementia not only affects the health and quality of life of patients but also imposes a heavy burden on caregivers and the public health system due to long-term care requirements and high associated costs. Caring for patients often requires a long duration, typically between 8 to 20 years. During this period, patients experience a decline in their ability to perform daily activities and require close care, leading to substantial physical and emotional burdens on caregivers. According to the Alzheimer's Association in the United States, the Medicare program's spending on dementia patients and their caregivers in 2017 amounted to approximately 341,840 dollars per person. (Alzheimer's Association, 2018). This example highlights the high costs of caring for dementia patients, reflecting the potential financial burden that Thailand's public health system might face as the number of patients increases.

The Ministry of Public Health in Thailand has implemented a policy mandating dementia screening for all older individuals, but the heavy workloads of primary healthcare providers present an obstacle to achieving this objective. Village health volunteers (VHVs) play a crucial role in linking community health services with the healthcare system, and they help translate health policies into tangible actions that empower community members to manage their health. The Ministry encourages these volunteers to engage in health promotion, disease prevention, home visits for the elderly, and dementia care. By equipping VHVs with the skills for dementia screening, the burden on healthcare providers could be significantly reduced, leading to more effective dementia care. However, there are no studies on dementia screening competency or the factors associated with the dementia screening competency of VHVs in urban areas in Songkhla province.

From the review literature, it was found that the factors positively associated with the dementia care readiness of VHVs were the awareness of caregiving roles, the role performance support, the attitude towards dementia care, the perception of health status, and dementia care knowledge (Heakham et al., 2020), and social support was the influencing factor for the job function of VHVs (Suamark & Suwan, 2023). Many prior studies showed two main factors that were motivation factors (such as satisfying their needs for growth and self-actualization), and hygiene factors (such as interpersonal relations, salary, company policies, and administration, relationships with supervisors, and working conditions) positively associated with the authorities, job

duties, and practice of VHVs (Jukchai et al., 2017; Herzberg, 1966).

The Precede-Proceed model by Green and Kreuter (2005) explains how various factors can influence health and working behaviors. This model has been previously applied to study the factors associated with the healthcare competency of village health volunteers (VHVs) in the care of older adults (Suwannakoot et al., 2021). The study by Suwannakoot et al.(2021) found that predisposing factors (such as age, years of experience as a volunteer, knowledge of older adult care, and attitudes toward older adults), enabling factors (such as access to information), and reinforcing factors (such as family and staff support) were positively associated with the older adult care competency of VHVs. Therefore, this study adopts the Precede-Proceed model to investigate the factors associated with the dementia screening competency of VHVs in an urban primary care unit in Songkhla Province, so that healthcare providers can consider these factors when seeking to improve the dementia screening competency of village health volunteers. For a detailed representation, refer to Figure 1.

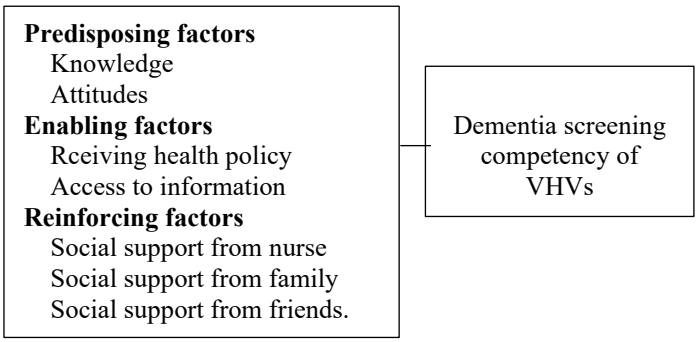


Figure 1 The Conceptual Framework

Research Methodology

The descriptive correlation research aimed to study the relationships between three factors: the predisposing factors (knowledge and attitudes in dementia care), the enabling factors (receiving policy for dementia care and accessing information about dementia care), the reinforcing factors (the social support of nurses, family, and friends), and village health volunteer dementia screening competency. The research was conducted from July to October 2023.

Study Population and Sample

The target population consisted of 522 village health volunteers (VHVs) working in urban primary care units in Songkhla Province. The sample size was calculated to be 173 VHVs using power analysis, with an effect size of 0.3, an alpha of 0.05, a power of 0.95, and an additional 25 percent included to account for potential dropout. A multi-stage sampling method was employed to select the sample. First, three out of the seven primary care units were randomly selected. The number of samples from each selected primary care unit was then determined based on the proportion of the VHV population in those units. The samples from each primary care unit were chosen through simple random sampling as follows:

- From the 1st primary care unit, 69 samples were selected from a population of 105.
- From the 2nd primary care unit, 51 samples were selected from a population of 77.
- From the 3rd primary care unit, 53 samples were selected from a population of 79.

Inclusion criteria required that participants be 18 years or older, actively working in 2023, and able to understand the Thai language. Exclusion criteria included VHVs with exacerbated health problems, contagious diseases, or psychiatric issues.

Data Collection

After obtaining approval from the Ethics Committee and securing permission from the District Public Health Office, data collection commenced. The questionnaire was distributed by a representative from the Village Health Volunteers (VHVs) in each community. The VHVs, who were briefed by the researchers on the process for obtaining consent and the methods for data collection,

delivered the questionnaires to the selected participants.

The Instruments.

1. The Demographic Data questionnaire created by the researcher consisted of gender, age,number of years of being a village health volunteer, education, and experiences in dementia care.

2. The predisposing factors were the characteristics of a person or population that motivate behavior before the occurrence of that behavior. Dementia knowledge and attitude were the predisposing factors in this study.

2.1. The Dementia Knowledge Questionnaire was created by the researcher and used to measure the knowledge of dementia care of VHVs. A total of 35 items, consisted of 5 items on general knowledge, 5 items on screening knowledge, 7 items on behavior and emotional management knowledge, 2 items on human rights knowledge, 5 items on diet and dementia prevention knowledge, 3 items on patient-centered knowledge, and 8 items on communication skills knowledge. The response was rated as true and false (correct=1, incorrectly=0 points). The possible scores ranged from 0 to 35 scores and were divided into 3 levels by class interval: low level (0-11 points), moderate level (12 to 23 points), and high level (24 to 35 points).

2.2. The Attitude Questionnaire was used to measure attitudes toward dementia care of VHVs. This instrument was adapted from the Attitude Toward Older People's Care Questionnaire (Leecharoen et al, 2014). The total 19 items consisted of 10 items to measure attitude toward dementia care and 9 items to measure attitude toward dementia screening. The response was a 4-point Likert scale, ranging from strongly disagree to strongly agree (from 1 to 4) respectively. The possible scores ranged from 19 to 76 scores and were divided into 3 levels by class interval: low level (19 to 37), moderate level (38 to 56), and high level (57 to 76)

3. The enabling factors were the resources or barriers that could help or hinder the desired behavioral changes or environmental changes.

3.1. The Receiving Health Policy questionnaire was used to measure the Receiving
Health Policy of dementia care of VHVs. This instrument was adapted from the Receiving Policies Regarding Elderly Care (Suwannakoot et al., 2017). The total of 14 items on a 4-point Likert scale ranged from very satisfied, satisfied, dissatisfied, and very dissatisfied (4, 3, 2, and 1 respectively). The possible scores ranged from 14 to 56 scores and were divided into 3 levels by class interval method: low level (14 to 27 points), moderate level (28 to 41 points), and high level (42 to 56 points).

3.2. The Access to Information Questionnaire was used to measure the access to the information about dementia care of VHVs. This instrument was adapted from the Access to Information Regarding Elderly Care Questionnaire (Suwannakoot et al., 2017). The total of 8 items on a 4-point Likert scale: ranging from very satisfied, satisfied, dissatisfied, and very dissatisfied (4, 3, 2, and 1 respectively). The possible scores ranged from 8 to 32 scores and were divided into 3 levels by class interval method: low levels (8 to 15 points), moderate levels (16 to 23 points), and high levels (24 to 32 points).

4. The reinforcing factors were the positive or negative influences or feedback from others that can encourage or discourage behavior change as the following.

4.1. The Social Support from Nurse Questionnaire was adapted from the Social Support of Staff Questionnaire in elderly care (Suwannakoot et al., 2017) to measure the positive feedback from nurses in dementia care of VHVs. The total 6 items on a 4-point Likert scale ranged from never to very frequency (1-4 respectively). The possible scores ranged from 6 to 24 scores and were divided into 3 levels: low levels (6 to 11), moderate levels (12 to 17), and high levels (18 to 24).

4.2.The Social Support from Family Questionnaire was adapted from the Social Support of Family Questionnaire in elderly care (Suwannakoot et al., 2017) to measure the positive feedback from families

in dementia care of VHVs. The total 5 items on a 4-point Likert scale ranged from never to very frequency (1-4 respectively). The possible scores ranged from 5 to 20 scores and were divided into 3 levels: low levels (5 to 9), moderate levels (10 to 14), and high levels (15 to 20).

4.3. The Social Support from Friends Questionnaire was developed from the Social Support of Friends Questionnaire in elderly care (Suwannakoot et al., 2017) to measure the positive feedback from friends in dementia care of VHVs. The total 5 items on a 4-point Likert scale ranged from never to very frequency (1-4 respectively). The possible scores ranged from 5 to 20 scores and were divided into 3 levels: low levels (5 to 9), moderate levels (10 to 14), and high levels (15 to 20).

5. The Dementia Screening Competency Questionnaire was developed by the researcher to measure the dementia screening competency of VHVs. Dementia. The total of 13 items and on a 5-point Likert scale were given the meaning of each scale: 1 having the ability to follow instructions from the mentor at all times, 2 having the ability to follow instructions from the mentor sometimes, 3 having an ability in dementia care and practice by ownself, 4 having an ability in dementia care and practice by ownself, and can recommend to others, and 5 having an ability in dementia care and practice by ownself, can recommend to others, and can work with multi-discipline. The possible scores ranged from 13 to 65 scores and were divided into 3 levels: low levels (13-29), moderate levels (30-47), and high levels (48-65).

Instrument Properties

The eight instruments used in this study were adapted and developed by the researcher. To ensure their validity and reliability, the content validity index was assessed by three experts. The internal consistency reliability of the Dementia Knowledge Questionnaire, which has a response scale ranging from 0 to 1, was analyzed using KR-20 (Kuder-Richardson Formula 20). The internal consistency reliability of others was evaluated using Cronbach's Alpha correlation coefficient. Detailed reliability results are provided in Table 1.

Table 1: The content validity index and the reliability of the instruments

Instrument	CVI	KR20	Cronbach's Alpha correlation coefficient
The Dementia Knowledge Questionnaire	1	0.75	-
The Attitude Questionnaire	1	-	0.73
The Receiving Health Policy Questionnaire	1	-	0.92
The Access to the Information Questionnaire	1	-	0.77
The Social Support from Nurse Questionnaire	1	-	0.87
The Social Support from Family Questionnaire-	1	-	0.95
The Social Support from Friends Questionnaire	1	-	0.91
The Dementia Screening Competency Questionnaire	1	-	0.95

Data Analysis

Data were analyzed using Statistical Package for the Social Sciences version 23 as follows;

1. Descriptive Statistics, mean, standard deviation, frequency, and percentage, were used to explain the demographic data.

2. Pearson's Product Moment Correlation was used to analyze the relationship between the predisposing factors (knowledge of dementia care, and attitude toward dementia care), enabling factors (receiving health policy of dementia care, and access to information about dementia care), and reinforcing factors (social support from staff, social support from family, and social support from friend), and the village health volunteers dementia screening. The data was

analyzed after the basic assumptions were tested: the two variables were at the interval level and ratio, the data was normally distributed, and there was a linear relationship between the variables.

Ethical Approval

The study was employed after the approval by the research ethics committee of Boromarajonani College of Nursing Songkhla, ethics permission code was EC.NOSN56. BCNSK6/2566

Results

The majority of the sample was female (91.30 percent), a similar number between those aged less than 60 (54.30 percent), and 60 years old and over (45.70 percent). Most of the VHVs' functional level was at the operational level (80.40 percent) followed by the professional level (4.00 percent), expert (2.34 percent), and leadership (13.30 percent), For education, a similar number among those whose education was in secondary school (43.40 percent), and those in primary school (42.20 percent), followed with a bachelor (13.90 percent), and master and over (0.60 percent) Most VHVs had never received dementia knowledge training (73.40 percent), as shown in Table 2

Table 2. Demographic characteristics

Characteristics	N	%
gender		
Male	15	8.70
Female	158	91.30
Age		
<60 years	94	54.30
60 years and older	79	45.70
Functional level		
Operational	139	80.40
Professional	7	4.00
Expert	4	2.30
Leadership	23	13.30
Education		
Primary	73	42.20
Secondary	75	43.40
Bachelor	24	13.90
Master and over	1	0.60
Dementia Knowledge training		
Received dementia knowledge training	46	26.60
Never received dementia knowledge training	127	73.40

It was found that the mean score of dementia screening competency of VHV was at a moderate level ($\bar{x}$ = 30.94, S.D. = 9.74). The mean score of the knowledge about dementia care of VHVs was at a high level ($\bar{x}$ = 25.72, S.D. = 2.83). The mean score for other variables as follows: The attitudes toward dementia care ($\bar{x}$ = 56.05, S.D. = 5.74), Receiving health policy about dementia care ($\bar{x}$ = 35.30, S.D. = 8.17), Access to information about dementia care ($\bar{x}$ = 18.84, S.D. = 4.18), Social support from nurse ($\bar{x}$ = 16.16, S.D. = 4.04), Social support from family ($\bar{x}$ = 13.12, S.D. = 3.12), and Social support from friends ($\bar{x}$ = 13.97, S.D. = 3.12), were at a moderate level as shown in Table 3.

Table 3. The level of variables (n = 173)

Variables	$\bar{x}$	S.D.	Level
Dementia screening competency of VHVs	30.94	9.74	moderate
Predisposing factors			
Knowledge about dementia care	25.72	2.83	high
Attitudes toward dementia care	56.05	5.74	moderate
Enabling factors			
Receiving health policy	35.30	8.17	moderate
Access to information	18.84	4.18	moderate
Reinforcing factors			
Social support from nurses	16.16	4.04	moderate
Social support from family	13.12	3.12	moderate
Social support from friends	13.97	3.12	moderate

The correlation analysis showed that knowledge about dementia care had no significant relationship with dementia screening competency of VHVs. For other variables, attitudes toward dementia care (r =0.16, p-value ≤0.05), receiving health policy about dementia care (r =0.45, p-value < 0.001), access to information about dementia care (r = 0.49, p-value < 0.001), social support from nurses (r = 0.46, p-value < 0.001), social support from family (r = 0.40, p-value <0.001), and social support from friends (r=0.31, p-value < .001), were passively associated with VHVs dementia screening competency significantly, as shown in Table 4.

Table 4. The relationship between the related factors and VHVs dementia screening competency (n = 173)

Variables	r	p-value
Predisposing factors		
Knowledge about dementia care	0.13^{ns}	0.08
Attitudes toward dementia care	0.16*	0.04
Enabling factors		
Receiving health policy	0.45**	0.00
Access to information	0.49**	0.00
Reinforcing factors		
Social support from nurse	0.46**	0.00
Social support from family	0.40**	0.00
Social support from friends	0.31**	0.00

ns=Non significant, *significant value≤0.05, ** significant value≤0.001

Discussion

The result showed the predisposing factors, the knowledge about dementia care had no relationship with VHV's dementia screening competency. Although some studies have presented the relationship between knowledge and competency (Meesit, 2023; Suwannakoot et al., 2021). This finding showed that only knowledge might not be sufficient for improving the competency of VHVs dementia screening. Thus in competency development, the providers should consider encouraging continuing practice. Also, the literature review found that to improve competency needs to increase self-confidence through empowerment and support (Pitchalard et al, 2022). Another predisposing factor was attitudes toward dementia care which was associated with dementia screening of VHVs. The result was congruent with several studies (Meesit, 2023; Suwannakoot et al., 2021) that found that a positive attitude drives a person to be satisfied with work. It was found that positive attitudes enhanced VHVs' commitment, accuracy in screening, and overall performance (Mohamad, & Jebet, 2020).

For enabling factors, receiving health policy, and access to information about dementia care had a positive relationship with VHV's dementia screening competency. Similar to the result from other studies that studied the factors related to VHVs' competency (Meesit, 2023; Suwannakoot et al., 2021). Nowadays, there is access to information through many channels. Most of the information comes from officials, announcements, applications, and village health volunteer leaders. This result showed that healthcare policy delivery to the VHVS is vital for their functioning. Therefore, village health volunteers should receive various information before actually taking action so that they might be aware of the importance of screening and be encouraged them practice more to increase competency.

For the reinforcing factors, it was verifiable that perceived social support from nurses or staff, family, and friends was an influencing factor in the development competency of VHVs (Jukchai et al., 2017; Meesit, 2023; Papakhon, 2013; Pitchalard et al, 2022; Suwannakoot et al., 2021). Perceiving social support can increase

motivation and affect the work performance of VHVs. Maslow (1943) explained the theory of the hierarchy of human needs, which was divided into 5 steps: physiological needs, safety needs, love and belonging needs, esteem needs, and self-actualization needs. Thus perceived acceptance and emotional support by nurses/staff, family, and friends might lead them to have self-esteem or self-actualization. Those can be positive reinforcement to encourage their competency.

Conclusion and Implication

The result of this study showed the factors associated with dementia screening of VHV which were attitude toward dementia care, perceived information, and policy of dementia care, as well as social support from nurses, family, and friends. These factors can guide the providers who have worked as the networked or the mentors to use the strategies to improve the competency of VHVs in dementia screening.

Suggestions for further study

The result of this study provided basic knowledge about factors related to village health volunteers' dementia screening competency to provide a basis for the creation of an effective program to further investigate. Thus, Further study should analyze data by multivariate analysis to identify factors influencing the village health volunteers' dementia screening competency.

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