Factors associated with self-care behavior among elders under COVID-19 at Ban Bang Khae Social Welfare Development and Center

Duangkamol Viroonudomphol[1,*], Pornpimon Poomlittikul[1], Sommai Tanyalugsanakul[2], and Walairuk Angkamat[3]

[1]Faculty of Nursing, Siam University, Bangkok, Thailand
[2]Office of the President, Siam University, Bangkok, Thailand
[3]Ban Bang Khae Social Welfare Development Center, Bangkok, Thailand

Abstract

Objective: To study the elderly good health management for COVID-19 prevention and factors associated with self-care behaviors among older adults under COVID-19 at Ban Bang Khae Social Welfare Development Center.

Methodology: Descriptive research was conducted among 100 elderly people. Data were collected by the questionnaires in November-December 2020 and analyzed for percentage (%), mean, standard deviation, and Pearson correlation.

Findings: There were no elderly people infected with COVID-19. The elderly's self-care behavior and social support score were at a high level (34.53, 36.4), while the elderly's knowledge (6.29), perceived self-efficacy (27.87), and acceptance of the role of the elderly (28.80) were at a moderate level. Factors related to self-care behavior of the elderly were knowledge (0.564, $p<0.01$), perceived self-efficacy (0.140, $p<0.05$), acceptance role of the elderly (0.165, $p<0.05$), and communal support (0.492, $p<0.01$) anticipated the self-care behaviors.

Conclusion: The healthcare team would consider social support, access to health, and the elderly knowledge when developing interventions according to the MOPH regulation for encouraging health outcomes, especially among older people during COVID-19 pandemic.

Keywords: self-care behavior, older adult, COVID-19

1. Introduction

The COVID-19 pandemic affects the health of people of all ages differently [1]. Especially older persons are the most at risk to be infected. That applies to Thailand as well as to the rest of the world. Increasing age has an effect on the cognitive and mental abilities to react to emergency situations caused by an epidemic of a dangerous infectious disease. Therefore, the elderly might need help in understanding and following preventive measures aiming to save them from acquiring the infection. Therefore, the public health system should take into account this group of people to prevent infection. Recommendations and regulations enforced by the health authorities to inhibit the spread of the disease might be especially difficult for the elderly to follow. Their quality of life might be diminished more than for other age groups [2]. The elderly also might have more difficulties understanding the rationales of restrictions than younger people [3]. The elderly still living with their families might follow unusual restrictions in daily life more easily compared to those living in care facilities. The elderly within families might be encouraged by family members and their overall social environment is better prepared to accept and follow regulations than those living in social welfare institutions. To test this hypothesis methods of medical sociology, the theory of self-care was applied, to find out how the elderly living in a Welfare Development Centre in Bangkok Thailand knew and were willing to adjust their daily life to suggestions and regulations imposed on them. Self-care has traditionally been associated with health promotion and is seen as a rational way to behave to maintain one's health [4, 5].

According to D. Orem's (1980), "theoretical constructs (TCs) of self-care and the literature concerning knowledge of medication self-care requisites, social learning, and self-care, deliberate action as self-care behavior, and design of nursing systems for monitoring self-care were summarized and reviewed." Self-care behaviors of the elderly mean the extent elderly can care for their daily life (self-care). They stay with their family (family care). When they need a care facility, they can request it from the community (community self-help group). The self-care in this study is the same variable of protective behavior towards COVID-19. The elderly at Ban Bang Khae Social Welfare Development Center had problems like troubled, poor, homeless, or having no relatives. They can survive alone with the government and social welfare by the officers, health care workers, caregivers, etc.

Self-care behavior decreases the elderly well-being, generating serious physio-psycho-social and economic problems [6]. Formerly, older adults have received health messages from

*Corresponding author; email: v_duangkamol@yahoo.com

Table 1. The characteristics of participants (n=100).

Parameter	n(%)
Age (year)	$\overline{X} = 75$ SD = 4.5 Max = 98 Min = 62
60-64	4 (4)
65-69	13 (13)
70-74	39 (39)
≥75	44 (44)
Gender	
Male	43 (43)
Female	57 (57)
Marital status	
Single	38 (38)
Married	62 (62)
Education	
Elementary school	63 (63)
Higher	37 (37)
Received social support	
Yes	75 (75)
No	25 (25)
Underlying diseases	
Hypertension	59
Dyslipidemia	30
Diabetes	25
Heart disease	18
Gout	8

Table 2. The mean, SD, and percentage of self-care knowledge of the elderly (KN), self-efficacy (SEF), the elderly role acceptance (ERA), social support (SS), and self-care behaviors (SC) of the elderly (n=100).

Parameter	n(%)	Mean (SD)
Levels of KN		
Low (0-5 scores)	22 (22)	
Medium (6-8 scores)	39 (39)	6.29 (0.52)
High (9-10 scores)	39 (39)	
Levels of SEF Low (0-22 scores)	5 (5)	
Medium (23-31 scores)	70 (70)	27.87 (1.39)
High (32-40 scores)	25 (25)	
Levels of ERA		
Low (0-22 scores)	15 (15)	
Medium (23-31 scores)	73 (73)	28.80 (1.44)
High (32-40 scores)	12 (12)	
Levels of social support (SS)		
Low (0-22 scores)	4 (4)	
Moderate (23-31 scores)	12(12)	36.4 (1.82)
High (32-40 scores)	84(84)	
Levels of self-care (SC) behaviors		
Low (0-22 scores)	5 (5)	
Moderate (23-31 scores)	12 (12)	34.53 (1.72)
High (32-40 scores)	83 (83)	

medical professionals through doctor visits, elderly society, and community visits [7]. Former research showed that self-health care behaviors associated with exercising, eating healthy meals, health following-up continuously related to their health learning (HL) [8] and social support [9]. Social support points to the relationship, personal network, and function that affect personal acknowledgment, recognition, and self-health care behaviors, for example, eating healthy meals, good exercise, sleeping well, and vaccination. Many studies reported that social support was related to health behaviors [7, 10]. The study was conducted during November – December 2020. Therefore, we study good health management of COVID-19 prevention of the elderly and factors (knowledge, perceived self-efficiency, accepted role and social support) associated with self-care behaviors among older adults at Ban Bang Khae Social Welfare Development Center. None of the inhabitants of this center did get sick due to the virus up the time of investigation, while there were 16 elderly people from a private elderly care facility infected with the COVID-19 from the visiting relatives and they did not wear a mask all the time.

2. Methods

The participant:

There were 236 elderly people living at the Baan-Bangkae Welfare Development Center. One hundred elderly people living at the Baan-Bangkae Welfare Development Center were selected by a purposive sampling. The inclusion criteria: 1) male or female age ≥ 60 years, 2) able to communicate in Thai, 3) signing a consent form, and 4) can care for their daily life. The exclusion criteria: 1) cannot communicate in Thai, 2) having cognitive impairment, score ≤ 17 for elementary school mini-Mental State Examination score (MMSE), score ≤ 22 for higher than elementary school MMSE, and 3) having depression or psychological problem. The sample size was calculated by Aho [11] n = [(Z1−α + Z1−β)2/ Z0 2]+3 n = 92.2. Considering sample loss during the study, 100 elders were considered. After the Institutional Review Board of Krathumban Hospital (IRB) approval (Ethic No. 019/22), it explained the aim and process of the study. The elderly can drop out at any time. They were assured that their information would remain confidential. The research tool consisted of 6 components: 1) personal data, 2) knowledge of the COVID-19, composed of 10 items with positive mark = 1) and negative mark = 2, 3) self-efficacy belief, 4) role acceptance of the elderly, 5) social support, component 2-5 consist of 10 items using 5-point Linkert scale from 0 to 4 represent the lowest to the highest level, and 6) COVID-19 prevention self-health care behaviors, a self-care behavior of elderly. Three specialists were commented for content validity, IOC (index of Item Objective Congruence) between 0.67 – 1.00. Reliability, using Kuder-Richardson's Method (KR_{20}), was equal to 0.74. All components (self-efficacy belief, role acceptance of elderly, social support) have internal consistency reliability of Cronbach alpha coefficient equal to 0.820 or more. Data were collected in November-December 2020.

Analytic Statistic

Data were analyzed using descriptive statistics, percentage, mean, and standard deviation, as well as a hypothesis, including Pearson's correlation. The statistically significant level was set

at < .05.

3. Results

All of the 100 participants returned the evaluable questionnaire. The average age (SD) of the participant was 75 (±4.5) years (range, 62 – 98 years), and 57 (57%) were women. 64% were married. 63% of the elderly finished an elementary school and above. Almost all of the elderly had an income from government social welfare. Over 70% had at least one underlying disease or health problem such as diabetes mellitus (DM) etc. Self-care of the elderly in this study means that the elderly can cope with their daily life. (Table 1).

Table 2 gives the level of knowledge, perceived self-efficiency, role acceptance, and social support of the elderly under the study. All of the tested variables scored sufficiently moderate and high. Particularly protective behavior towards Covid 19 with 85.3% was excellent (Table 3). In addition, all the variables also were statistically and significantly related to self-care behavior (Table 4).

4. Discussion

This study emphasizes good COVID-19 prevention behavior of the elderly. The fact that any of the participants got infected up to the end of 2020, while this was the case in similar institutions, it indicates that the measures applied seem to work. It must be noted that throughout the year 2020 Thailand together with New Zealand were worldwide acknowledged for the successful rigorously controlled spread of the virus. In Thailand, this was achieved through a follow-up scheme conducted with the help of the village health worker organization [12]. In effect, the country by large was isolated from the rest of the world. At that time no vaccination was available and therefore the attitude of the elderly to one important feature of infection control could not be tested. Unfortunately, for Thailand in the following year and in 2022, the spread of the virus could no longer be inhibited.

The elderly's knowledge was at a moderate level. It may be because the elderly at Ban Bang Khae Social Welfare Development Center had problems like troubled, poor, homeless, or having no relatives. They can survive alone with the government and social welfare by the officers, health care workers, caregivers, etc. Insufficient acknowledgment and promotion take older persons at the chance of anxiety depression syndrome and self-health care deficit [13]. The elders in this study have received health messages from medical professionals through doctor visits, elderly society, and community visits. A similar study has been reported by Suksatan [7]. In Thailand, multimedia and home visiting by health team workers, including volunteers, have successful COVID-19 prevention to a great extent [14]. Our study showed that self-care behaviors associated with knowledge. It is the same as former research which shows that self-health care behaviors associated with exercising, eating healthy meals, and health follow-up continuously related to health learning (HL) [15] and social support [16]. Sufficient HL is a gainful factor in handling hypertension patients' blood pressure [17]. Nevertheless, some studies manifested that enough HL is not correlated with health behaviors [18]. Adequate HL seems to understand health and healthy habits. However, it is still unclear between HL and health behaviors. During the COVID-19 pandemic, only a few investigators have studied this topic.

Risk of physical and psychological disorders among the elderly or other cognitive impairments, specified by anxiety, depressed feeling and manifested responsibility because of dwindling time for self-care, insufficient services, and the responsibility of giving care reduce the elderly's role [19].

Social support points to the relationship, personal network, and function that affect personal acknowledgment, recognition, and self-health care behaviors, for example, eating healthy meals, good exercise, sleeping well, and vaccination (WHO 2013). Wu and Sheng [20] showed that social support enhanced personal self-efficacy and correlated to self-health care behaviors. In contrast, Chlebowy and Garvin [21] showed no relationship between social promotion and glycemic handle, self-efficacy, and expected outcome and glycemic handle in Caucasian and Afro-American adult type 2 diabetes. Many studies reported that social support was related to health behaviors [7, 19, 21]. Generally, social support is forecasting attitude, acknowledgment, and health operation in the average population, including older persons. During the outbreak of COVID-19, the important tools for protection included mask-wearing, social distancing, refraining from alcohol consumption, shutting down of eating and entertaining facilities, and lockdowns during nighttime. To follow mainly restrictive orders was associated with health behaviors. Our study explored the role of self-health care behavior (SC), knowledge (KN), perception in self-efficacy (SEF), the elderly role acceptance (ERA), social support (SS), and self-health care behaviors, then, for further health promotion during the pandemic.

The factors that related to self-health care behavior and good COVID-19 prevention behaviors were due to the following circumstances:

Socioeconomic conditions were positively related to better COVID-19 prevention behaviors [22]. In general, seniors with higher incomes have a healthier and longer life than those with a lower income. However, for this study, the socioeconomic status was not associated with self-health care behavior. The most likely reason for this is that at Ban Bang Khae Social Welfare Development Center the inhabitants are supported by the government welfare and charity.

Social support was powering self-health care behavior in the elderly. In addition, good social support was significantly correlated to good COVID-19 preventive behaviors. The elderly can get enough not only protection materials such as masks, alcohol, and alcohol gel, but also support from medical support such as health services (refer to public health center), routine service, and health information.

In the same study, family support is a significant element in enhancing a person's quality of life [23].

Our study showed that SEF was related to self-care behavior. Similarly, the study of Alavijeh [24] showed that the self-efficacy self-care program affected the increase of the life satisfaction of the elderly.

Our study indicated that role acceptance of the elderly was associated with self-care behavior. When the elderly accept

Table 3. Number and percentage of good COVID-19 prevention behaviors (n = 100).

Good COVID-19 prevention behaviors	Never (%)	Sometimes (%)	Always (%)
1. Wear a mask when going out	2(2)	14(14)	84(84)
2. Cover nose and mouth when coughing or sneezing	1(1)	15(15)	84(84)
3. Wash hands before and after eating	2(2)	13(13)	85(85)
4. Eat a recently cooked meal	2(2)	14(14)	84(84)
5. No use of other personal tools such as bowl, glass, etc.	0(0)	0(0)	100(100)
6. Avoid going to congestion places	0(0)	0(0)	100(100)
7. Wash hands whenever touching things	2(2)	16(16)	82(82)
8. Do not eat with another	4(4)	20(20)	76(76)
9. Sleep at least 6-8 hours per day	2(2)	18(18)	80(80)
10. Keep a social distance of at least 1 meter	2(2)	20(20)	78(78)
Average (%)	1.7%	13.0%	85.3%

Table 4. Pearson's product-moment correlation coefficient (r) between self-care knowledge of the elderly (KN), self-efficacy (SEF), the elderly role acceptance (ERA), social support (SS), and self-care behaviors (SC)

Variable	KN	SEF	ERA	SS	SC	Age
KN	1	-0.027	0.048	0.435**	0.564**	0.387*
SEF	-0.027	1	0.461**	-0.024	0.140*	0.145
ERA	0.058	0.462**	1	-0.024	0.165*	0.377*
SS	0.445**	-0.024	-0.024	1	0.492**	0.132
SC	0.564**	0.140*	0.165*	0.492**	1	-0.087

*$p<0.05$, **$p<0.01$

their role thus they will have good health self-care such as eating healthy food, regular exercising, getting an annual checkup, and taking medicine under prescription medication. The elderly can remove stress and find solutions to promote better health care which is similar to the study of Somwong [25].

Following the COVID-19 guideline regulations specified by the MOPH, it shows that almost all the elderly (84%) wear a mask. It has been demonstrated that wearing a mask can decrease disease transmission [26]. In the case of the elderly with an underlying condition like NCDs, wearing masks might make breathing difficult and may worsen their health. That wasn't noticed in this study. No symptoms, such as severe heart failure, obstructive pulmonary disease, or robust hyperglycemic status were observed. Table IV shows two groups answering "always" and "sometimes" following the regulations given. Less than 2% reject some of the regulations. Only about 10% don't follow the regulations all the time. Many of the recommendations are observed with or without the threat of infection because they are related to meaningful sanitary behaviors. Wearing a mask or don't communicate too often with others might reduce the quality of life for the elderly. However, there are means and ways of reducing stress within the environment of the institution. So, for instance, they can go to a park and use the exercise equipment located there.

None of the inhabitants of this center did fall sick because of the virus up the time of investigation while there were 16 elderly people from a private elderly care facility infected the COVID-19 from the visiting relatives and outsiders and they did not wear a mask all the time.

It must be noted that the elderly investigated here are in a much better situation compared to the general elderly popula-

tion. During the COVID-19 pandemic, it is difficult for older adults to access health services because the Social Welfare Department is closed, and healthcare services resources are limited to the emergency care areas because of the lockdown during the present time. It would be more effective for the general administration to offer special services during the pandemic situation for the elderly, to provide recommendations and assistance. For future research during the COVID-19 pandemic, the officer may use social media in an appropriate information setting. To develop integrated community-based health care and social welfare services results in sharing resources, benefits, and provision of holistic health and welfare services contributing to the increase of the quality of life for the elderly and sustainable healthy lifestyle.

5. Conclusions

This study investigated the perceived elderly role acceptance, social support, and knowledge of self-care behaviors in the first year of the COVID-19 pandemic at a time of low risk of infections and very low infection rates and death. In follow-up studies, the worsening of the situation could be assessed in comparison with a time in a rather "relaxed" situation. Factors related to self-care behaviors of the elderly were knowledge, perceived self-efficacy, acceptance role of the elderly, and communal support. From the given results here, the healthcare team should contemplate SS, approach to health, and the elderly knowledge when developing intervention and improving health outcomes of COVID-19 preventive behaviors, especially among the elderly living in the Ban Bang Khae Social Welfare Development Center. For further research, the health care team may

apply the intervention program to preventive health behaviors among the elderly living in the elderly care center, nursing homes, or communities.

Acknowledgments

References

[1] C. Wang, P. W. Horby, F. G. Hayden, G. F. Gao, A novel coronavirus outbreak of global health concern, Lancet 395(10223) (2020) 470 – 473.

[2] G. Netuveli, D. Blane, Quality of life in older ages, British Medical Bulletin 85(1) (2008) 113 – 126.

[3] OpenStax College, Creative Commons Attribution 4.0 International License. http://openstraxcollege.org.

[4] D. E. Orem, Nursing, Concept of Practice, 5th eds., St Louis, MO: Mosby Yearbook, 1995.

[5] M. S. Denyes, D. E. Orem, G. SozWiss, Self-care: a foundational science, Nursing Science Quarterly 14 (2001) 48 – 54.

[6] R. Schulz, P. R. Sherwood, Physical and mental health effects of family caregiving, American Journal of Nursing 108 (2008) 23 – 27.

[7] W. Suksatan, J. Ounprasertsuk, Health-promoting behaviors and related factors in patients with chronic diseases in a rural community, Systematic Reviews in Pharmacy 11(10) (2020) 634 – 627.

[8] L. Yan, M. Hongdao, L. Naidan, The relationship between health literacy, social support, depression, and frailty among community-dwelling older patients with hypertension and siabetes in China, Frontiers in Public Health 8(280) (2020) 1 – 11.

[9] C. Giebel, K. Lord, C. Cooper, et al., A UK survey of COVID-19 related social support closures and their effects on older people, people with dementia, and carers, International Journal of Geriatric Psychiatry 36(3) (2021) 393 – 402.

[10] D. A. Hasanpour, A. Khaledi-Far, B. Khaledi-Far, S. Selhi-Tali, The effect of family training and support on the quality of life and cost of hospital readmissions in congestive heart failure patients in Iran, Applied Nursing Research 31 (2016) 165 – 169.

[11] A. K. Aho, Foundational and Applied Statistics for Biologists Using R., 1st ed., New York: Chapman and Hall/CRC, 2016.

[12] T. Plipat, Lessons from Thailand's response to the Covid-19 pandemic, Thai Journal of Public health 50(3) (2020) 268.

[13] T. Choowattanapakorn, L. Pothiban, J. Riian, Care for depended older persons in the home for the aged, Nursing Journal 35(1) (2008) 36 – 45.

[14] B. Choompunuch, W. Suksatan, J. Sonsroem, S. Kutawan, A. In-udom, Stress, adversity quotient, and health behaviors of undergraduate students in a Thai university during the COVID-18 outbreak, Belitung Nursing Journal 7(1) (2021) 1 – 7.

[15] L. Yan, M. Hongdao, L. Naidan, The relationship between health literacy, social support, depression, and frailty among community-dwelling older patients with hypertension and diabetes in China, Frontiers in Public Health 8(280) (2020) 1 – 11.

[16] S. Ghaffari-Fam, E. Sabazi, F. Ardabili, G. Babazaheh, H. Jafaralilou, Ann Ig 32(3) (2020) 263 – 273.

[17] S. Kim, F. Love, D. A. Quistberg, Association of health literacy with self-management behavior in patients with diabetes. Diabetes Care 27(12) (2004) 2980 – 2982.

[18] H. Chu, C. Yang, Y. Liao, L. Chang, C. Chen, C. Lin, K. Chou, The effects of a support group on dementia caregivers' burden and depression, Journal of Aging and Health 23(2) (2011) 228 – 241.

[19] F. Wu, Y. Sheng, Social support network, Social support, self-efficacy, health-promoting behavior and healthy aging among older adults: a pathway analysis. Arch Gerontol Geriatr 85 (2019) 103934.

[20] O. F. Chlebowy, J. B. Garvin, Social support, self-efficacy, and outcome expectations, The Diabetes Educator 32(5) (2006) 777 – 786.

[21] A. Hasanpour-Dehkortdi, A. Khaledi-Far, B. Khaledi-Far, S. Selhi-Tali, The effect of family training and support on the quality of life and cost of hospital readmissions in congestive heart failure patients in Iran, Applied Nursing Research 31 (2016) 165 – 169.

[22] M. Y. Savundranayagam, M. Brintnall-Peterson, Testing self-efficacy as a pathway that supports self-care among family caregivers in a psychoeducational intervention, Journal of Family Social Work 13(2) (2010) 149 – 162. doi: 10.1080/10522150903487107.

[23] National Alliance for Caregiving, Caregiving costs: Declining health in the Alzheimer's caregiver as dementia increases In the care recipient, http://www.caregiving.org/pdf/research/Alzheimers_Caregiving_Costs_Study_FI NAL.pdf, 2011.

[24] M. S. Alavijeh, Z. Zandiyeh, M. Moeini, The effect of self-care self-efficacy program on life satisfaction of the Iranian elderly, Journal of Education and Health Promotion 10(1) (2021) 167.

[25] B. Somwong, P. Roonpo, Health care of physically and mentally of the elders in Bangkhae district, RMUTRCON, 1376-1385, 2017. (in Thai)

[26] J. Abaluck, L. H. Kwong, A. Styczynski, et al., The impact of community masking on COVID-19 in a cluster-randomized trial in Bangladesh, September 01, 2021