Research Article

Determinants of COVID-19 self-protection behavior of Thai people: a cross-sectional survey

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ABSTRACT

Background: Coronavirus disease 2019 (COVID-19) pandemic is a critical situation since 2020. Its outbreak occurs across the world. A national policy is to promote self-protection behavior including hand wash, wearing mask, and physical distancing. However, evidence on determinants of the behavior in Thai people is limited. This study aimed to identify determinants of COVID-19 self-protection behavior in Thai people.

Design and Method: A cross-sectional survey was undertaken in January 2021. An online questionnaire was developed under the Health Belief Model (HBM). Participants who often or always behave COVID-19 self-protection was considered as proper self-protection behavior. Data was collected through social medias.

Results: A total of 408 participants was included. Of those, 92 participants (22.5%) were male with the average age of 32.3±11.5 years. A total of 158 participants (38.7%) has proper self-protection behavior. Based on HBM, perceived threat [odds ratio (OR)=1.40, 95%CI 1.01-1.92], perceived barriers (OR=0.51, 95%CI; 0.36-0.71), and perceived self-efficacy (OR=6.77, 95%CI; 3.60-12.72) were significantly associated with self-protection behavior.

Conclusion: One-third of participants have proper COVID-19 self-protection behavior. Perceived self-efficacy is the strongest determinant of COVID-19 self-protection behavior followed by perceived threat and perceived barriers.

Keywords:
COVID-19, Determinants, Physical distancing, Handwashing, Wearing mask, Health Belief Model

1. INTRODUCTION

Coronavirus disease 2019 (COVID-19) is firstly discovered in China since December 2019 and the pandemic of COVID-19 has been rapidly occurred and recognized as the important global health problem in 2020[1-2]. Most infected people develops mild to moderate respiratory symptoms including fever, dry cough, headache, sore throat, and weakness[3-4]. However, serious acute respiratory distress syndrome and multiple organ failures could develop especially in elderly who have medical conditions such as cancer, chronic kidney disease, diabetes mellitus and cardiovascular disease[5].

The coronavirus (SAR-CoV2), which causes COVID-19, transmits from person to person via droplets through talking, coughing, sneezing, and touching contaminated surface[6]. Therefore, isolation, strict quarantine, and physical distancing have been recommended to prevent COVID-19 pandemic[7]. Even vaccination is an important tool to stop the spread of COVID-19, the availability and distribution of COVID-19 vaccines are limited. Therefore, the World Health Organization (WHO), the Department of Disease Control of Thailand (DDC), and Thai Health Promotion Foundation promote self-protection campaign to protect Thai people from COVID-19. Three important COVID-19 self-protection behaviors are recommended including hand washing with soap or alcohol gel, wearing a mask, and physical distancing by spacing 1-2 meters between others[4,7-10].

The success of the self-protection campaign is

to change human behavior, therefore, some health behavior theories could be applied to explain and encourage health behavior changes. One of the appropriate theories is the Health Belief Model (HBM)[11-14]. It explains human behavior through five perceptions of individuals including perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and perceived self-efficacy and one cue to actions. The theory could explain key determinants of COVID-19 self-protection behavior. Therefore, this study aimed to identify determinants of COVID-19 self-protection behavior in Thai people through the HBM framework. The results could provide important information to support policy makers for the improvement of COVID-19 self-protection campaign among Thai people.

2. MATERIALS AND METHODS

2.1. Study design

A cross-sectional survey was undertaken to identify significant determinants of COVID-19 self-protection behavior among Thai people. The study was approved by the research committee of Naresuan University Institutional Review Board (NU-IRB) (No. P10167/63). The consent form was provided by subjects through Google form® at the beginning of online questionnaires.

2.2. Subject selection

The study's population was Thai people who lived in Thailand during 2020-2021. Thai people who met the following inclusion criteria were eligible. The inclusion criteria were: 1) aged 20 years and above, 2) be able to read Thai language, 3) be able to access and use the internet network to complete the online questionnaires, and 4) voluntary participation.

2.3. Questionnaire development

An online survey questionnaire using a Google form® was developed to evaluate COVID-19 self-protection behavior during the period of the first relaxed coronavirus lockdown in Thailand from May to December 2020 which was the time before the second wave of COVID-19 outbreak in Thailand. The questionnaire consisted of 39 items and were classified into three parts. The first part was the subject characteristics (8 items). The second part aimed to assess COVID-19 self-protection behavior which were recommended by the WHO, and Thai DDC related to COVID-19 self-protection guidance including 4 items for handwashing with soap or alcohol gel (before eating food, after using toilet, after coughing/sneezing, and after touching objects in a public place), 1 item for wearing mask in public place, and 1 item for physical distancing in public place.

The response options of these two parts were 5-levels Likert scale as "1-Never", "2-Rarely", "3-Sometime", "4-Often" and "5-Always". The third part of the questionnaire composed of 25 items which were constructed under the HBM framework to identify key determinants of COVID-19 self-protection behavior. The perceptions of disease susceptibility, disease severity, benefits to action, barrier to action, self-efficacy, and cue to actions were evaluated on 5-levels Likert scale from 1-strongly disagree to 5-strongly agree. Content validity of the questionnaire was assessed by Item-Objective Congruence (IOC) index. Reliability of the questionnaire was also assessed by Cronbach's alpha. The Cronbach's alpha of this questionnaire was 0.752.

2.4. Data collection

The questionnaire was distributed to subjects through social media platforms including Facebook®, Instagram® and Twitter® in January 2021. The platforms were frequently monitored to response to subjects' questions (if any) and the Google form® was also monitored daily to determine the number of subjects. The data collection was stopped when the number of participants reached the estimated sample size (400 subjects).

2.5. Outcomes and analysis

Prevalence of COVID-19 self-protection behavior including hand washing with soap or alcohol gel, wearing mask and physical distancing were estimated. Subjects who rated each particular COVID-19 self-protection behavior as 4-Often or 5-Always were considered as proper for each behavior. Specifically, subjects were classified as proper handwashing behavior when they rated 4-Often or 5-Always for all 4 items of handwashing behavior. Subjects who rated all COVID-19 self-protection behavior as 4-Often or 5-Always were considered as proper COVID-19 self-protection behavior.

Descriptive statistics were used to describe subjects' characteristics. A multiple logistic regression was performed to identify significant determinants of proper COVID-19 self-protection behavior and presented as odds ratio (OR) with its corresponding 95% confidence interval. Multiple linear regression was also performed to associate modifying factors and each specific perception. All statistical analyses were performed using STATA package version 15.0 (StataCorp LP, college station, TX, USA)

3. RESULTS

3.1. Subject's characteristics

A total of 408 subjects completed this online

Table 1. Demographic data.

Characteristics (n=408)	n (%)
1. Genders	
Male	92 (22.55)
Female	305 (74.75)
Lesbian, gay, bisexual, and transgender	6 (1.47)
Not identified	3 (0.74)
2. Age (years), mean = 32.29±11.54	
20-29	232 (56.86)
30-39	71 (17.40)
40-49	58 (14.22)
50-59	36 (8.82)
60-69	10 (2.45)
70+years	1 (0.25)
3. Educations	
Elementary school	3 (0.74)
Junior high school	13 (3.19)
Senior high school/vocational certificate	48 (11.76)
Diploma/vocational certificate	15 (3.68)
Bachelor's degree or higher	313 (76.72)
4. Occupations	
Government/state employee	128 (31.37)
Students	106 (25.98)
Healthcare personnel	27 (6.62)
Merchant/self-employed	25 (6.13)
Teachers	23 (5.64)
General contractor	23 (5.64)
Public driver	3 (0.74)
Agriculturist	3 (0.74)
Security guard	1 (0.25)
Others	38 (9.31)
unemployed	27 (6.62)
5. Average income (bath/month)	
<500	12 (2.94)
500-3,000	19 (4.66)
3,001-10,000	98 (24.02)
10,001-30,000	179 (43.87)
30,001-50,000	66 (16.18)
50,001-100,000	17 (4.17)
>100,000	10 (2.45)
6. Chronic diseases	
Were not diagnosed	317 (77.70)
Diagnosed	89 (21.81)
Hypertension (HTN)	13 (3.19)
Diabetes mellitus (DM)	6 (1.47)
Cardiovascular disease (CVD)	1 (0.25)
Lung disease	-
Others	69 (16.91)
7. Family members (not include the respondent)	
Living with other family members	306 (75.00)
Age >50 years	208 (50.98)
Chronic disease; HTN, DM, CVD, and Lung disease	132 (32.35)
Pregnancy/puerperium period	7 (1.72)
Children <5 years	43 (10.54)

survey. Of those, 305 subjects were female (74.75%) with the average age of 32.29±11.54 years. The majority earned the bachelor's degree (76.72%).One hundred and twenty-eight subjects (31.37%) were government or state employee, and 179 subjects (43.87%) had an average income of 10,001-30,000 Thai baht/month. Most subjects (77.70%) were not diagnosed as chronic diseases (77.70%), and lived with other family members (75.00%) (Table 1).

3.2. Prevalence of COVID-19 self-protection behavior

The average scores of handwashing with soap or alcohol gel ranged from 3.66±1.18 (for handwashing after coughing/sneezing) to 4.41±0.87 (for handwashing after touching objects in a public place). The average

score of wearing a mask in a public place was 4.88±0.40, while the average score of physical distancing was 3.87±0.96 (Table 2).

According to our operational definition, we found that 200 subjects (49.02%) had proper handwashing, 400 subjects (98.04%) had proper mask wearing, and 276 subjects (67.65%) had proper physical distancing. We also found that 158 subjects (38.73%) had proper COVID-19 self-protection behavior (Table 2). Details of each item of COVID-19 self-protection behavior is presented in appendix (Table A1).

3.3. Determinants of proper COVID-19 self-protection behavior

According to HBM, perceived self-efficacy was the strongest determinant of proper COVID-19 self-protection behavior (OR=6.77, 95%CI; 3.60-12.72). Other significant determinants were perceived threat (OR= 1.10, 95%CI; 0.10-1.92), and perceived barriers (OR=0.51, 95%CI; 0.36-0.71). The detail of determinants of proper COVID-19 self-protection behavior and each specific behavior is presented in Table 3 and frequency distribution of answers to questions based on the HBM is presented in Table A2.

3.4. Association between modifying factors and individual perceptions

The association between modifying factors and individuals' perceptions were assessed using multiple linear regression. We found that age was significantly associated with perceived severity, perceived barrier and perceived self-efficacy, while gender was associated with perceived benefits and perceived self-efficacy. In addition, income was associated with perceived benefit, and living with patients with chronic diseases was reversely associated with perceived barriers. All significant modifying factors of each individual perceptions are reported in Table 4.

4. DISCUSSION

This study investigates prevalence of COVID-19 self-protection behavior among Thai people and identifies significant determinants of COVID-19 self-protection behavior using HBM framework. Thirty-eight percent of subjects have proper COVID-19 self-protection behavior. Perceived self-efficacy, perceived threat, and perceived barriers are significant determinants of COVID-19 self-protection behavior.

Only one-third of subjects have proper COVID-19 self-protection behavior, which is relatively low. It might be due to our strong operational definition for proper behavior. Only subjects who rated all COVID-19 self-protective behavior as 4-Often or 5-Always are classified as proper COVID-19 self-protection behavior. When we classify subjects with proper COVID-19 self-protection behavior as 2 out of 3 sub-behaviors should be rated as 4-Often or 5-Always, prevalence of proper COVID-19 self-protection behavior could be higher. However, we intent to use the current operational definition to reflect the best practice as recommended by WHO and Thai DDC. We believe that it will help policy makers to better evaluate the current situation of COVID-19 self-protection.

According to the observed prevalence of each COVID-19 self-protection behavior, almost all subjects (98.04%) have proper mask wearing in public area. More than half (67.65%) have proper physical distancing but only half of subjects (49.02%) have proper handwashing behavior. The low prevalence of proper handwashing might be because we require subjects to behave proper handwashing for all four situations as handwashing before eating food, handwashing after using toilet, handwashing after coughing/sneezing, and handwashing after touching objects in public place. The average scores of handwashing ranged from 3.66±1.18 for handwashing after coughing or sneezing to 4.41±0.87 for handwashing after touching objects in public place. The low prevalence of proper handwashing behavior could also affect the overall prevalence of proper COVID-19 self-protection behavior. Because the coronavirus could spread via droplets through coughing, sneezing, and touching contaminated surface, handwashing could be one of the cheap and effective intervention to protect people from COVID-19 infection[15]. Therefore, proper handwashing behavior campaign should be intensely promoted to encourage COVID-19 self-protection behavior among Thai people.

Health Belief Model is widely used to identify significant determinants of COVID-19 self-protection behavior in several countries[16-18]. A study from Iran indicated that perceived self-efficacy and perceived barriers were significant determinants of COVID-19 self-protection behavior[16], while a study from Ethiopia revealed that perceived self-efficacy, perceived benefits, perceived barriers, and perceived susceptibility were significant determinants of COVID-19 of adherence to COVID-19 self-protection behavior[17]. In addition, perceived severity was the most significant determinant in Morocco and perceived susceptibility was the strongest determinant in India[18]. Our findings indicated that perceived self-efficacy, perceived threat, and perceived barriers were the significant determinants of COVID-19 self-protection behavior. The variations of important determinants of COVID-19 self-protection behavior across countries might be due to differences in culture, belief, COVID-19 situations, and health communications of COVID-19 in each country.

According to HBM, perceived self-efficacy refers to personal perception about their competence to

successfully engage to health-protective behavior. The perceived self-efficacy is recognized as one of key determinants of health behavior change[11]. Therefore, public health communication strategies which encourage self-efficacy of individuals should be implemented to improve COVID-19 self-protection behavior among Thai people.

Perceived threat is the combination of perceived susceptibility and perceived severity[11]. They depend on knowledge of health conditions. Individuals,

who feel more susceptible to being illness or perceived the conditions as serious problems, are more likely to comply with health preventive behavior[14]. Therefore, public health communication strategies which provide comprehensive knowledge of susceptibility and severity of COVID-19 could help individuals to improve COVID-19 self-protection behavior.

Perceived barriers is defined as the perception of inconvenience, dangerous or discomfort to action which leads to decline disease prevention[11]. In our study,

Table 2. Prevalence of COVID-19 self-protective behaviors.

Self-protective behaviors	Action*n (%)	Score 1-5 $\bar{x}$ $\pm$SD
1. Hand washing with soap/alcohol hand gel	200 (49.02)[a]	-
1.1 Before eating food	312 (76.47)	4.09±0.98
1.2 After using toilet	331 (81.13)	4.30±1.00
1.3 After coughing/sneezing	250 (61.27)	3.66±1.18
1.4 After touching objects in a public place	343 (84.07)	4.41±0.87
2. Wearing mask in public place	400 (98.04)	4.88±0.40
3. Physical distancing in public place	276 (67.65)	3.87±0.96
4. Proper COVID-19 self-protection behaviors	158 (38.73)[b]	-

*Often or always
a: Often or always in all of 1.1-1.4
b: Often or always follow all of the recommended self-protection behaviors including hand washing with soap/alcohol hand gel, wearing a mask in a public place and physical distancing (spacing 1-2 meters) in a public place.

Table 3. Determinant of proper COVID-19 self-protection behaviors.

The construct of HBM with proper self-protective behaviors	Odds ratio [95%CI]			
	Hand washing	Wearing mask	Physical distancing	Proper COVID-19 self-protection behaviors
Perceived threat	1.29 [0.97-1.73]^	1.28 [0.47-3.53]	1.15 [0.83-1.61]	1.40 [1.01-1.92]^
Perceived benefits	0.79 [0.51-1.21]	1.55 [0.77-3.11]	1.25 [0.80-1.96]	0.87 [0.54-1.39]
Perceived barriers	0.68 [0.51-0.91]^	0.34 [0.13-0.88]^	0.70 [0.50-0.98]^	0.51 [0.36-0.71]^
Perceived self-efficacy	3.32 [2.04-5.39]^	1.62 [0.61-4.29]	5.91 [3.23-10.83]^	6.77 [3.60-12.72]^
Cues to actions	1.44 [1.02-2.04]^	1.53 [0.60-3.87]	0.93 [0.62-1.40]	1.28 [0.86-1.91]

^P-value<0.05

Table 4. Association between modifying factors and individual perceptions.

	Beta coefficient	95% CI		*P*-value
		Min	Max	
Perceived susceptibility				
No modifying factors	-	-	-	-
Perceived severity				
Age 40-49 years old	0.22	0.03	0.41	0.025
Age 50-59 years old	0.32	0.09	0.55	0.007
Perceived benefits				
Female	0.20	0.07	0.33	0.002
Income 15,001-50,000 bath/month	0.15	0.04	0.26	0.007
Perceived barriers				
Age 30-39 years old	-0.45	-0.66	-0.24	0.000
Age 40-49 years old	-0.53	-0.76	-0.30	0.000
Age 50-59 years old	-0.68	-0.96	-0.40	0.000
Living with patients with chronic diseases	0.02	0.00	0.04	0.014
Perceived self-efficacy				
Female	0.22	0.08	0.36	0.002
Age 30-39 years old	0.23	0.07	0.39	0.005
Age 40-49 years old	0.23	0.06	0.40	0.010
Age 50-59 years old	0.36	0.15	0.57	0.001
Age 60-69 years old	0.39	0.01	0.77	0.042

individuals who had higher perceived barriers have worse COVID-19 self-protection behavior. They are likely to not behaving COVID-19 self-protection behavior because of some inconveniences.

Therefore, Thai government should have public policies to provide proper environment to promote COVID-19 self-protection behavior such as providing soap and alcohol gel, providing low-cost but effective masks, and providing effective physical distancing environment.

Even though, we totally believe that our findings are important for Thai public health policy makers for the improvement of COVID-19 self-protection behavior, some limitations should be discussed. This study distributed the survey online via social medias. Individuals who have limited access to internet or limited ability to response online questionnaires might not be able to participate. It is shown in the subjects' characteristics that the average age of subjects is 32.29 years old and the most age group is 20-29 years old. The age group is likely to have higher internet access and higher ability to response online questionnaires than elderly. Generalizability of our findings should be limited to young Thai people. Second, this study was conducted in January 2021 which was the time of the second wave pandemic of COVID-19 in Thailand, we need to ask subjects to recall to the time of the first relaxed coronavirus lockdown which was from May to December 2020. Recall bias should be considered. However, we attempted to ensure that subjects have to recall to such time period by emphasizing the time period we asked in the subject information sheet which was the first page of our Google form® online questionnaire.

In conclusion, one-third of participants have proper COVID-19 self-protection behavior. Perceived self-efficacy is the strongest determinant of COVID-19 self-protection followed by perceived threat and perceived barriers. To improve COVID-19 self-protection behavior, perception of self-efficacy should be primarily encouraged among Thai people.

5. ACKNOWLEDGEMENT

Conflict of interest
No authors declare any conflict of interest related to this study.

Ethics approval
This study was approved by the research committee of Naresuan University Institutional Review Board (NU-IRB) (No. P10167/63).

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Appendix

Table A1. Responses on self-protection behavior.

Self-protection behavior	Never	Rarely	Sometime	Often	Always
1. Handwashing					
- before eating food	7 (1.72)	24 (5.90)	64 (15.72)	141 (34.64)	171 (42.26)
- after using toilet	10 (2.46)	18 (4.42)	48 (11.79)	96 (23.59)	235 (57.74)
- after coughing/sneezing	28 (6.88)	40 (9.83)	89 (21.87)	135 (33.17)	115 (28.26)
- after touching objects in public	1 (0.25)	17 (4.17)	47 (11.52)	92 (22.25)	251 (61.52)
2. Wearing mask in public	0 (0.00)	1 (0.25)	7 (1.72)	33 (8.09)	367 (89.95)
3. Physical distancing	6 (1.47)	28 (6.88)	97 (23.83)	158 (38.82)	118 (28.99)

Table A2. Responses on HBM framework.

HBM framework	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Perceived susceptibility					
1. I have a chance to be infected through secretion or saliva from COVID-19 patients.	66 (16.18)	42 (10.29)	56 (13.73)	52 (12.75)	192 (47.06)
2. I do not have a risk for COVID-19 diseases.	125 (30.64)	66 (16.18)	76 (18.63)	77 (18.87)	64 (15.69)
Perceived severity					
1. I will have a chance to be pneumonia if I get infected by COVID-19 virus.	12 (2.95)	17 (4.18)	73 (17.94)	115 (28.26)	190 (46.68)
2. I will have a chance to death if I get infected by COVID-19 virus.	29 (7.13)	30 (7.37)	105 (25.80)	91 (22.36)	152 (35.35)
3. I will be unable to stay in public if I get infected by COVID-19 virus.	92 (22.55)	69 (16.91)	98 (24.02)	58 (14.22)	91 (22.30)
4. COVID-19 could be treated by drug(s).	17 (4.17)	29 (7.11)	86 (21.08)	137 (33.58)	139 (34.07)
5. I will have a chance to be severely infected or death if get infected by COVID-19 virus and have a chronic disease(s).	9 (2.21)	5 (1.23)	29 (7.13)	59 (14.50)	305 (74.94)
Perceived benefits					
1. Handwashing with soap or alcohol gel helps me to prevent COVID-19 spread and infection.	2 (0.49)	2 (0.49)	20 (4.91)	96 (23.59)	287 (70.52)
2. Waring mask in public helps me to prevent COVID-19 spread and infection.	0 (0.00)	5 (1.21)	9 (2.21)	85 (20.83)	309 (75.74)
3. Physical distancing for at least 1-2 meters helps me to prevent COVID-19 spread and infection.	3 (0.74)	3 (0.74)	35 (8.58)	105 (25.74)	262 (64.22)
4. Self-protection as recommended by Thai government helps us to reduce the number of infected individuals or death.	5 (1.23)	14 (3.44)	50 (12.29)	103 (25.31)	235 (57.74)
Perceived barriers					
1. Handwashing regularly is difficult to do.	178 (43.63)	119 (29.17)	48 (11.76)	40 (9.80)	23 (5.64)
2. At current, alcohol gel is difficult to find.	200 (49.14)	122 (29.98)	56 (13.76)	21 (5.16)	8 (1.97)
3. Alcohol gel is too expensive over its benefits.	118 (28.99)	111 (27.27)	107 (26.29)	47 (11.55)	24 (5.90)
4. Wearing mask causes breathing difficulty and disturbs daily of living.	74 (18.23)	81 (19.95)	68 (16.75)	109 (26.85)	74 (18.23)
5. At current, mask is difficult to find.	164 (40.20)	116 (28.43)	29 (16.91)	36 (8.82)	23 (5.64)
6. Mask is too expensive over its benefits.	115 (28.19)	104 (25.49)	75 (18.38)	59 (14.46)	55 (13.48)
7. Physical distancing in public is difficult to do.	58 (14.22)	76 (18.63)	77 (18.87)	104 (25.49)	93 (22.79)
Perceived self-efficacy					
1. I am able to wear a mask in public.	1 (0.25)	6 (1.41)	16 (3.92)	75 (18.38)	310 (75.98)
2. I confidently perform physical distancing for at least 1-2 meters when staying with others.	20 (4.90)	45 (11.03)	132 (32.35)	111 (2721)	100 (24.51)
3. I wash my hands with no remind from others.	2 (0.49)	7 (1.72)	19 (4.66)	73 (17.89)	307 (75.25)
Cues to action					
1. I perform self-protection behavior because of the advertisement.	2 (0.49)	8 (1.96)	29 (7.11)	128 (31.37)	241 (59.07)
2. My family and friends suggest me to perform self-protection behavior.	19 (4.66)	86 (6.13)	52 (12.75)	106 (25.98)	206 (50.49)
3. I perform self-protection behavior because of Thai national policy.	31 (7.60)	48 (11.76)	62 (15.20)	105 (25.74)	162 (39.71)
4. Places such as department stores or communities provide sufficient environment for handwashing or physical distancing.	6 (1.47)	18 (4.41)	44 (10.78)	114 (27.94)	226 (55.39)

Table A3. Association between modifying factors and individual perceptions.

	Beta coefficient	95% CI		*P*-value
		Min	**Max**	
Perceived susceptibility				
No modifying factors	-	-	-	-
Perceived severity				
Age 40-49 years old	0.22	0.03	0.41	0.025
Age 50-59 years old	0.32	0.09	0.55	0.007
Perceived benefits				
Female	0.20	0.07	0.33	0.002
Income 15,001-50,000 bath/month	0.15	0.04	0.26	0.007
Perceived barriers				
Age 30-39 years old	-0.45	-0.66	-0.24	0.000
Age 40-49 years old	-0.53	-0.76	-0.30	0.000
Age 50-59 years old	-0.68	-0.96	-0.40	0.000
Living with patients with chronic diseases	0.02	0.00	0.04	0.014
Perceived self-efficacy				
Female	0.22	0.08	0.36	0.002
Age 30-39 years old	0.23	0.07	0.39	0.005
Age 40-49 years old	0.23	0.06	0.40	0.010
Age 50-59 years old	0.36	0.15	0.57	0.001
Age 60-69 years old	0.39	0.01	0.77	0.042