Original Article

Predicting Factors of Spiritual Well-Being among Thai Patients with Non-communicable Diseases

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Abstract

OBJECTIVES: To examine the spiritual well-being (SWB) and predicting the factors of SWB among Thai patients with non-communicable diseases (NCDs).

MATERIALS AND METHODS: The sample was 155 patients with NCDs in Ubon Ratchathani Province, Thailand. Multistage cluster random sampling was used for the sample selection. The study was conducted from May 1, 2021 to July 31, 2021. Research instruments consisted of a personal characteristics questionnaire, a personal faith questionnaire, a spiritual contentment questionnaire, a religious practice questionnaire, a social support questionnaire, a perceived severity of illness questionnaire, a meaning of life questionnaire, and SWB questionnaire. The data were analyzed by using descriptive statistics, Pearson correlation coefficient, and factors predicting SWB taken together as a Multiple Regression Analysis (MRA) was used.

RESULTS: The total score of SWB was at a high level (3.93 ± 0.44). Factors related to SWB were personal faith ($r = 0.35$; $p < 0.01$), spiritual contentment ($r = 0.33$; $p < 0.01$) religious practice ($r = 0.37$; $p < 0.01$), social support ($r = 0.42$; $p < 0.01$), and meaning of life ($r = 0.35$; $p < 0.01$). Predicting the factors of SWB comprised social support ($\beta = .345$; $p = 0.00$) and religious practice ($\beta = .282$; $p = 0.00$). These predictors accounted for 24.8% of the variance in SWB.

CONCLUSION: Factors related to SWB were personal faith, spiritual contentment, religious practice, social support, and meaning of life. Therefore, assessing and providing spiritual care related to these factors is important in promoting SWB among patients with NCDs.

Keywords: spiritual well-being, Thai patients, non-communicable diseases

The common causes of NCDs are inappropriate lifestyle habits and behavior, such as smoking, drinking alcohol, lacking exercise, and overeating of fatty and greasy foods. Each year, 41 million people die prematurely as a result of NCDs. The four major types of NCDs are cardiovascular diseases (CVDs) (17.90 million), cancer (9.30 million), respiratory diseases (4.10 million), and diabetes mellitus (1.50 million).[1] In Thailand, the five major types of NCDs that are the causes of death are cerebrovascular disease (30,837 cases), ischemic heart disease (20,786 cases), diabetes mellitus (14,305 cases), hypertension (8,590 cases), and chronic obstructive pulmonary disease (6,728 cases).[2] In Ubon Ratchathani, which is ranked the fifth highest in the country, there are 9,886 cases of cerebrovascular disease, 8,441 cases of ischemic heart disease, 35,122 cases of diabetes mellitus, 43,366 cases of hypertension, and 7,481 cases of chronic obstructive pulmonary disease.[3]

NCDs have the greatest impact on the physical, psychosocial, and spiritual aspects of an individual. They also cause the limitation of physical functions, dependence, disability, and premature death.[1-2] Moreover, NCDs can cause psychological problems, including anxiety, depression,[4] and suicide.[5] The limitation of physical functions can lead to unemployment and financial problems.[6] Thus, this could have an effect on the country's gross domestic product (GDP),[7] and productivity

losses.[6] In Thailand, the cost of caring for NCDs is 3,128 Thai Baht per capita of the healthcare budget, or 200,000 million Thai Baht/total mid-year population.[8] Furthermore, the severity of illness, symptoms of distress, and life-threatening situations are the primary causes of spiritual distress of chronic illness patients. In 2017-2018, the rate of spiritual distress of chronic illness patients ranged from 17-73%.[9-11] Therefore, holistic care would be important for patients with NCDs to respond to their physical, psychosocial, and spiritual needs.

The SWB relates to human needs for meaning, purpose, and connection.[12-13] It has played a crucial roles among chronic illness patients in promoting inner peace, inner strength, illness acceptance, self-care behavior, compassion, meaning and purpose of life, hope, relationships and connection with self and others, nature, and supreme power or God.[12,13] Hence, the consequences of SWB among chronic illness patients are coping capacity, restoration, resilience, emotional balance, empowerment, and quality of life.[12-13] According to the literature review, most studies focused on SWB among cancer patients,[14-15] patients receiving hemodialysis,[16-17] and patients with human immunodeficiency virus infection and acquired immunodeficiency syndrome (HIV/AIDS).[13,18] Previous studies found that religious practice was related to SWB of cancer patients[14-15] , patients with end stage renal disease,[16] and patients with HIV/AIDS.[13,18] According to a study by Chaiyasit et al.[13] it was found that religious practice was associated with SWB of Thai patients with HIV/AIDS (r = 0.40, p = 0.00). Moreover, social support was related to SWB of patients with end stage renal disease[17], patients with HIV/AIDS,[13] and chronic hepatitis patients.[19] According to the study by Chaiyasit et al[13] it was found that social support was associated with SWB of Thai patients with HIV/AIDS (r = 0.57, p= 0.00). Perceived severity of illness was one of the significant factors relating to SWB of patients with end stage renal disease,[17] and Thai Muslim patients with chronic illness.[20] According to the study by Nimu et al.[20] found that the perceived severity of illness was related to SWB of Thai Muslim patients with chronic illness. O'Brien[21] proposed a middle-range theory of SWB in illness. There were seven factors influencing SWB in people with illness, consisting of personal faith, spiritual contentment, religious practice, social support, severity of the illness, stressful life events, and finding the meaning of spirituality. In the aforementioned study, the study of the correlation between personal faith, spiritual contentment, finding the meaning of spirituality, and SWB should be explored. Therefore, examining SWB and predicting factors of SWB among Thai patients with NCDs is important in providing appropriate spiritual intervention for patients with NCDs.

Materials and Methods

The study was conducted during May 1, 2021 to July 31, 2021. The Ethics Committee of the Ubon Ratchathani Provincial Public Health approved this research (EC number SSJ.UB 2563-139). The population was composed of 104,296 patients with NCDs living in Ubon Ratchathani province, Thailand.[2] The samples were calculated by using the G*power program with six independent variables, effect size (d) = 0.15 (small = 0.02, medium = 0.15, large = 0.35)[22], $\alpha = 0.05$, and $1 - \beta = 95.0$ %, which were found from 146 cases.[22] Therefore, the samples in the study comprised 155 cases. Multistage cluster random sampling was used for the sample selection. Four research areas were used based on the Office of Disease and Prevention Control Region 10 of Ubon Ratchathani province, Thailand (Table 1).

The inclusion criteria comprised:

1. Patients of both genders with NCDs.
2. Aged 20-59 years.
3. Living in Ubon Ratchathani province, Thailand for more than 1 year.
4. Be able to communicate and to be aware.
5. Be willing to participate in the research.

The exclusion criteria comprised:

1. Having a complex condition or severe illness.
2. Withdrawal from the study.

The participants were invited by registered nurses or healthcare providers working at the NCDs clinic in the primary healthcare units depending on the inclusion criteria. Next, participants received information about the purposes, procedures, benefits, and risks of the study from a research team. Research members were trained to use the research instrument before collecting data. The participants were enrolled in the study after completing a consent form, and they could resign from the study at any time. Then, the participants had 15-30 minutes to answer the questions by themselves. For those who did not understand the questions, a researcher explained them.

Instruments in this study included:

1. The **demographic characteristics questionnaire** of patients with NCDs, i.e., gender, age, marital status, religion, occupation, salary, present illness, duration of the illness, and health problems.

Table 1: Population and samples based on the Office of Disease and Prevention Control Region 10 of Ubon Ratchathani province.

Regions	Districts	Subdistricts	Population (Cases)	Samples (Cases)
1	Ubon Ratchathani	Nong Khon	5,552	65
2	Trakan Phuet Phon	Nong Tao	1,067	12
3	Phibun Mangsahan	Kut Chom Phu	4,786	56
4	Det Udom	Thung Thoeng	1,849	22
Total			13,254	155

2. The **personal faith questionnaire** was designed by the researchers from the literate reviews, which was a 5-point Likert scale (ranging from 1 = strong disagreement to 5 = strong agreement). There were 6 items based on a middle-range theory of SWB in illness.[21] The overall score ranged from 6-30. The higher score indicated the higher level of personal faith. The total score was categorized into five levels; lowest level (1.00-1.49), low level (1.50-2.49), moderate level (2.50-3.49), high level (3.50-4.49), and highest level (4.50-5.00). The questionnaire was explored for content validity by three nursing instructors by applying the index of item-objective congruence (IOC), which was 1.00. Cronbach's alpha coefficient was used for reliability testing with 30 cases of patients with NCDs, which was 0.70.
3. The **spiritual contentment questionnaire** was developed by the researchers from the literate reviews, which was a 5-point Likert scale (ranging from 1 = strong disagreement to 5 = strong agreement). There were 6 items based on a middle-range theory of SWB in illness.[21] The overall score ranged from 6-30. The higher score indicated the higher level of spiritual contentment. The total score was categorized into five levels; lowest level (1.00-1.49), low level (1.50-2.49), moderate level (2.50-3.49), high level (3.50-4.49), and highest level (4.50-5.00). The questionnaire was explored for content validity by three nursing instructors by applying the index of item-objective congruence (IOC), which was 1.00. Cronbach's alpha coefficient was used for reliability testing with 30 cases of patients with NCDs, which was 0.80.
4. The **religious practice questionnaire** was developed by Rakhab et al.,[23] which was permitted for use by the author. It was a four-point Likert scale (ranging from 1 = never practiced to 4 = always practiced). There were 20 items with three dimensions based on the threefold method of training in morality (the Tri-Sika principle). The overall score ranged from 20-80. The higher score indicated the higher level of religious practice. The total score was categorized into three levels; low level (1.00-2.00), moderate level (2.01-3.00), and 3.01-4.00 (always). The questionnaire was explored for content validity by five experts.[23] Cronbach's alpha coefficient was used for reliability testing with 30 cases of patients with NCDs, which was 0.80.
5. The **social support questionnaire** was developed by Netimetee,[24] which was permitted for use by the author. It was a five-point Likert scale (ranging from 1 = strong disagreement to 5 = strong agreement). There were 19 items with five dimensions based on social support theory. The overall score ranged from 19-95. The higher score indicated the higher level of social support. The total score was categorized into five levels; lowest level (1.00-1.49), low level (1.50-2.49), moderate level (2.50-3.49), high level (3.50-4.49), and highest level (4.50-5.00). The questionnaire was explored for content validity by five experts.[24] Cronbach's alpha coefficient was used for reliability testing with 30 cases of patients with NCDs, which was 0.91.
6. The **author used the Brief Illness Perception Questionnaire** (Brief IPQ) developed by Broadbent et al.[25] to assess the perceived severity of illness. The Brief IPQ was a nine-item scale designed to quickly assess cognitive and emotional representations of illness. It was a single-item scale approach to assess perception on a 0-10 response scale. A back translation technique was used to translate from English to Thai. Cronbach's alpha coefficient was used for reliability testing with 30 cases of patients with NCDs, which was 0.70.
7. The **meaning of life questionnaire** was developed by Steger and Frazier,[26] which was permitted for use by the author. It was a four-point Likert scale (ranging from 1 = absolutely untrue to 4 = absolutely true). There were 6 items with two dimensions. The overall score ranged from 6-24. The higher score indicated the higher level of meaning of life. A back translation technique was used to translate from English to Thai. Cronbach's alpha coefficient was used for reliability testing with 30 cases of patients with NCDs, which was 0.80.
8. The **SWB questionnaire** was developed by Netimetee,[24] and permission to use by the author. It was a five-point Likert scale (ranging from 1 = strong disagreement to 5 = strong agreement). There were 20 items with two dimensions based on the concept of SWB developed by Paloutzian& Eillison. The overall score ranged from 20-100. The higher score indicated the higher level of SWB. The total score was categorized into five levels; lowest level (1.00-1.49), low level (1.50-2.49), moderate level (2.50-3.49), high level (3.50-4.49), and highest level (4.50-5.00). The questionnaire was explored for content validity by five experts.[24] Cronbach's alpha coefficient was used for reliability testing with 30 cases of patients with NCDs, which was 0.83.

Data analyzed

1. The data was quantitatively analyzed using frequencies, percentages, mean, and standard deviation.
2. Pearson Product-Moment Correlation was used to test the correlation between predictor variables and SWB. The five assumptions of using Pearson Product-Moment Correlation were explored to apply in the study, consisting of:
   1) Two variables were at the interval or ratio level.
   2) Two variables had a linear relationship.
   3) Two variables had normally distributed distribution.
   4) Each observation had a pair of values.
   5) There were no extreme outliers in the dataset.
3. The MRA was used to determine the strength of the relationship. The assumptions of using MRA were explored to apply in the study, consisting of:
   1) Two variables had a linear relationship.
   2) There was no multicollinearity.
   3) The residual values were independent.
   4) The residuals' variance was constant.
   5) The residual values were normally distributed.

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Results

The total number of samples in the study was 155 patients with NCDs. Most of the participants were female (69.7%), had a mean age of 49.45 ± 7.08 years, were Buddhist (100.0%), married (81.3%), had a primary education level (71.6%), worked in agriculture (60.0%), had a monthly salary of 5,390.37 ± 4,061.37 Thai Baht, had insufficient payment with debt (38.1%), and the major chronic illnesses were diabetes mellitus (64.5%) and hypertension (56.1%) (Table 2).

The total score of SWB among Thai patients with NCDs was at a high level (3.93 ± 0.44). Existential well-being (EWB) and religious well-being (RWB) were also at a high level (4.08 ± 0.63 and 4.00 ± 0.63, respectively).

Predicting factors of SWB among patients with NCDs

The factors related to SWB among patients with NCDs at the level of 0.01 were personal faith (r = 0.35; $p < 0.01$), spiritual contentment (r = 0.33; $p < 0.01$) religious practice (r = 0.37; $p < 0.01$), social support (r =0.42; $p <0.01$), and the meaning of life (r = 0.35; $p < 0.01$). However, there was no correlation between the perceived severity of illness and SWB (r = 0.140; $p = 0.08$) (Table 3). Predicting the factors of SWB among patients with NCDs comprised social support (β = .345; $p = 0.00$) and religious practice (β = 0.282; $p = 0.00$) (Table 4). These predictors accounted for 24.80% (R2 = 0.248; $p < 0.01$) (Table 4 and 5). The predictive equation was constructed as follows:

$$\hat{Z}\ \text{SWB} = 0.345\text{Social support} + 0.282\text{Religious practice}$$

Table 2: Demographic characteristics of the samples (n=155).

Variables	n (%)
GenGender	
Male	47 (30.30)
Female	108 (69.70)
Age (Years); mean±S.D.	49.45 ± 7.08
Religion	
Buddhist	155 (100)
Education Level	
None	4 (2.60)
Primary school	111 (71.60)
Junior high school	20 (12.90)
Senior high school	12 (7.70)
Diploma	7 (4.50)
University	1 (0.60)
Marital Status	
Single	14 (9.00)
Married	126 (81.30)
Divorced	15 (9.70)
Occupation	
None	7 (4.50)
Agriculture	93 (60)
Laborer	34 (21.90)
Merchant	19 (12.30)
Others	2 (1.20)
Salary(Baht/Month); mean±S.D.	5,390; 37 ± 4,061.37
Sufficient Payment	
Sufficiency/no savings	57 (36.80)
Sufficiency/savings	18 (11.60)
Insufficient/no debt	21 (13.50)
Insufficient/had debt	59 (38.10)
Chronic Illness	
Diabetes mellitus	100 (64.50)
Hypertension	87 (56.10)
Dyslipidemia	9 (6.00)
Chronic obstructive pulmonary disease	1 (0.60)
Others	2 (1.20)
Duration of Illness (years); mean ± S.D.	5.93 ± 4.82

Table 3: Factors associated with SWB among Thai patients with NCDs (n = 155).

Regions Districts	X1	X2	X3	X4	X5	X6	Y
1. Personal faith	1						
2. Spiritual contentment	0.97**	1					
3. Religious practice	0.20*	0.19*	1				
4. Social support	0.85**	0.85**	0.25**	1			
5. Perceived severity of illness	0.07	0.06	-0.05	0.04	1		
6. Meaning of life	0.54**	0.52**	0.08	0.81**	-0.00	1	
7. Spiritual well-being (SWB)	0.35**	0.33**	0.37**	0.42**	0.14	0.35**	1

Note: *$p < 0.05$, **$p < 0.01$

Table 4: The stepwise MRA of predicting the factors for SWB among patients with NCDs (n = 155)

Model	Predictors in the Model	R	R square (R2)	Adjusted R square (Adj R2)	R square change (R2 change)	F	*p*
1	Social support	0.417	0.174	0.168	0.174	32.188	0.000
2	Social support Religious practice	0.498	0.248	0.238	0.074	25.085	0.000

Table 5: Factors associated with SWB among Thai patients with NCDs (n=155).

Predictors	b	SEb	β	t	*p*
Social support	0.277	0.058	0.345	4.750	0.000
Religious practice	0.363	0.094	0.282	3.877	0.000
Constant	1.844	0.319		5.777	0.000
R = 0.498 R2 = 0.248 F = 25.085					

Discussion

SWB among Thai patients with NCDs

The total score of SWB among Thai patients with NCDs was at a high level. Moreover, EWB and RWB were also at a high level. This could be due to the fact that most participants were middle-aged. Fowler[27] proposed that stage six, or "Universalizing" faith (age > 45 years), might be called "enlightenment." An individual would treat other people with compassion, as they would have a view of being part of a universal community and should act with the universal idea of justice and love. Thus, they accepted and gave thanks for the value of nature, had a peaceful life, inner strength, and personal stability. Moreover, the duration of illness of patients was 5.93 ± 4.82 years, which was long enough for patients to promote their SWB.[28] According to the studies of Balthip et al.,[28] it was found that the duration of illness in promoting peace and the harmony of life among patients with HIV/AIDS was 1-5 years. In addition, most participants were married, so being part of a couple was an important source of mental and spiritual support for patients with chronic illness.[13]

The spiritual anchor, a bright and pleasant life, and religion as a spiritual refuge that helps to find well-being received the third highest scores for SWB. This could be due to the fact that all participants were Buddhists. Moreover, personal faith and spiritual contentment were at a high level, and religious practice was at a moderate level. Therefore, participants perceived that they had a mental and spiritual anchor to drive their life with consciousness, as well as having an understanding and learning about the nature of life.[13,28] Consequently, they experienced well-being and had a bright and pleasant life. The findings of this study were congruent with that of Chaiyasit et al.,[13] who found the third highest scores of SWB among HIV/AIDS patients were religion as a spiritual refuge that helped to find well-being, practicing religious doctrine was a way to have true peace of life, and a bright and pleasant life.

Correlation and Predicting factors of SWB among Thai patients with NCDs

The factors related to SWB among patients with NCDs were personal faith, spiritual contentment religious practice, social support, and the meaning of life. However, there was no correlation between the perceived severity of illness and SWB. Predicting the factors of SWB among patients with NCDs comprised social support and religious practice. These predictors accounted for 24.80%.

Personal faith was significantly associated with SWB. This could be illustrated by the fact that the personal faith of participants was at a high level. Three of the highest scores of personal faith were belief in the law of karma, doing good to receive good and doing bad to receive bad, and belief in the enlightenment of Buddha. Personal faith affects the religious and spiritual practices that lead to SWB. O'Brien[21] proposed that personal faith was important for searching for spiritual meaning and SWB through the experiences of illness. According to Mueller,[29] personal faiths was correlated with the SWB of stage 3 and 4 cancer patients.

Spiritual contentment was significantly associated with SWB. This could be described by the fact that the spiritual contentment of the participants was at a high level. The third highest spiritual contentment scores were a sense of security in the Buddha's power, the ability to remember and perform the Buddha's word, and faith in faithfulness. O'Brien[21] proposed that spiritual contentment was important for searching for the meaning of spirituality and SWB through the experiences of illness.

Religious practice was significantly associated with SWB. This could be described by the fact that all participants were Buddhists, and religious practice was at a moderate level. They regularly donated to charity, lived with the five moral precepts in Buddhism, or "Sila" consisting of abstaining from taking life, abstaining from taking what is not allowed, abstaining from the misuse of the senses or sexual misconduct, abstaining from wrong speech, and abstaining from intoxicants and mental development. These were important doctrines to improve consciousness, understand and accept the nature of life, promote peace, inner strength, life satisfaction, and confront death and dying. [13, 23] O'Brien[21] proposed that religious practice was important for searching for spiritual meaning and SWB. According the study of Chaiyasit et al.,[13] it was found that religious practice was positively correlated with the SWB of HIV/AIDS patients (r = 0.40; *p* = 0.000). It accounted for 3.20% of SWB.

Social support was significantly associated with SWB. This could be seen in the fact that most participants were married and perceived social support at a high level, including emotional support, esteem support, social network support, tangible support, and information support. Social support is a key factor in promoting SWB. As such, this was congruent with the theory of SWB in illness, which was proposed by O'Brien.[21] Social support was essential for patients seeking spiritual meaning and promoting SWB. According to the study of Chaiyasit et al.,[13] it was found that social support was

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positively correlated with SWB of HIV/AIDS patients (r = 0.57; *p* = 0.00). It accounted for 2.80% of SWB.

The meaning of life was significantly associated with SWB. This could be seen in the fact that the participants' meaning of life was at a high level. The meaning of life was important for people to set and pursue their goals and to achieve them. Thus, this could promote life satisfaction and the meaning of life.[26] Consequently, the meaning of life was important for promoting the SWB of people with illness.[21] According to Abedi et al.,[30] the meaning of life was associated with the SWB of the elderly.

Perceived severity of illness was not correlated with SWB. This could be described by the fact that most participants were diagnosed with diabetes mellitus and hypertension (64.5% and 56.1%, respectively). The duration of illness was 5.93 years, and the perceived severity of illness was 4.85/10. Therefore, the participants perceived a low level of severity of illness on their physical impacts. However, 95.5% of participants could perform their daily life activities and work. As a consequence, the findings from the study were not consistent with the theory of SWB in illness, which states that the perceived severity of illness was associated with SWB. Additionally, previous studies found that the perceived severity of illness was negatively correlated with SWB.[20]

Conclusion

The factors related to SWB among patients with NCDs were personal faith, spiritual contentment religious practice, social support, and the meaning of life. However, there was no correlation between the perceived severity of illness and SWB. Predicting the factors of SWB among patients with NCDs comprised social support and religious practice. These predictors accounted for 24.80%. Therefore, interventions with a focus on the significant associated factors to promote SWB among Thai patients with NCDs would be recommended. Likewise, other factors relating to SWB should be clarified, for instance, personal characteristics and stressful life events. However, the study was conducted in a province of Thailand, which was Ubon Ratchathani province. Therefore, the generalizability of this study is limited. Moreover, the results of this study can be generalizable to patients with NCDs at the same level as the research setting. Further studies in different areas and conditions need to be explored in the future.

Conflict of interest

None is declared.

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References

1. World Health Organization. Noncommunicable diseases; 2021. (Accessed August 25, 2021, at https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases).
2. Bureau of Non Communicable Diseases. Number and mortality rate of NCDs 2016-2018 (total 4 diseases/hypertension/diabetes/ischemic heart disease/cerebrovascular disease/bronchitis/emphysema); 2019. (Accessed August 25, 2021, at http://www.thaincd. com /2016/mission/documents-etail.php?id=13653&tid=32&gid=1-020).
3. Division of Non Communicable Disease. Number and inpatient rates in 2016-2018 (hypertension, diabetes mellitus, coronary heart disease, cerebrovascular disease, and chronic obstructive pulmonary disease; 2022. (Access July 7, 2022, at http://www.thaincd.com/2016/mission/ documents-detail.php?id=13684&tid=32&gid=1-020).
4. Uphof EP, Newbould L, Walker I, et al. A systematic review and meta-analysis of the prevalence of common mental disorders in people with non-communicable diseases in Bangladesh, India, and Pakistan. *J Glob Health* 2019; 9(2): 1-21. doi: 10.7189/jogh.09.020417.
5. Choo CC, Chew PKH, Ho RC. Controlling Noncommunicable diseases in transitional economies: mental illness in suicide attempters in Singaporean exploratory analysis. *Biomed Res Int* 2019;2019: 4652846. doi: 10.1155/2019/4652846.
6. Chaker L, Falla A, van der Lee SJ, et al. The global impact of non-communicable diseases on macro-economic productivity: a systematic review. *Eur J Epidemiol* 2015; 30: 357-95. doi: 10.1007/s10654-015-0026-5.
7. Kundu MK, Hazra S, Pal D, et al. A review on noncommunicable diseases (NCDs) burden, its socio-economic impact and the strategies for prevention and control of NCDs in India. *Indian J Public Health* 2018;62(4): 302-4. doi: 10.4103/ijph.IJPH_324_16.
8. Department of Disease Control. Situation on NCDs prevention and control in Thailand; 2018. (Accessed August 25, 2021, at http://www.thaincd.com/document/file/download/paper-manual/NCDUNIATF61.pdf.).
9. Martins H, Caldeira S. Spiritual distress in cancer patients: A synthesis of qualitative studies. *Religions* 2018; 9: 285. doi:10.3390/rel9100285.
10. Pinho CM, Gomes ET, Trajano MFC, et al. Impaired religiosity and spiritual distress in people living with HIV/AIDS. Rev *Gaucha Enferm* 2017; 38(2): e67712. doi: 10.1590/1983-1447.2017.02.67712.
11. Velosa T, Caldeira S, Capelas ML. Depression and spiritual distress in adult palliative patients: A cross-sectional study. *Religions* 2017;8(156):1-18. doi:10.3390/rel8080156.

12. Chaiyasit Y, Thong-on R, Piboonrungroj P, et al. The roles of spirituality in people living with HIV/AIDS: A qualitative meta-synthesis. *BKK Med J* 2019; 15(1), 113-20. doi:10.31524/bkkmedj.2019.02.020.
13. Chaiyasit Y, Kunakote N, Kotta P, et al. Predicting factors of spiritual well-being among people living with HIV/AIDS. *BKK Med J* 2020; 16(1): 26-32. doi: 10.31524/bkk-medj.2020.11.006.
14. Mazzotti E, Mazzuca F, Sebastiani C, et al. Predictors of existential and religious well-being among cancer patients. *Support Care Cancer* 2011; 19(12); 1931–37. doi: 10.1007/s00520-010-1033-4.
15. Bovero A, Tosi C, Botto R, et al. The spirituality in end-of-life cancer patients, in relation to anxiety, depression, coping strategies and the daily spiritual experiences: A cross-sectional study. *J Relig Health* 2019; 58: 2144–60. doi: 10.1007/s10943-019-00849-z.
16. Jugjali R, Yodchai K, Thaniwattananon P. Predicting factors of spiritual well-being in patients receiving hemodialysis. *CANNT J* 2018; 28(4);21-5.
17. Song M, Paul S, Ward SE, et al. One-year linear trajectories of symptoms, physical functioning, cognitive functioning, emotional well-being, and spiritual well-being among patients receiving dialysis. *Am J Kidney Dis* 2018; 72(2): 198-204. doi: 10.1053/j.ajkd.2017.11.016.
18. Trevino KM, Pargament KI, Cotton S, et al. Religious coping and physiological, psychological, social, and spiritual outcomes in patients with HIV/AIDS: cross-sectional and longitudinal findings. *AIDS Behav* 2010;14(2):379-89. doi: 10.1007/s10461-007-9332-6.
19. Sohail MM, Mahmood QK, Sher F, et al. Coping through religiosity, spirituality and social support among Muslim chronic hepatitis patients. *J Relig Health* 2020;59(6):3126-40. doi: 10.1007/s10943-019-00909-4.
20. Nimu N, Balthip K, Baupetch A. Predicting factors of spiritual well-being in Muslim patients with chronic diseases in the comeback stage of chronic trajectory illness model. [In Thai]. *Songklanagarind J Nurs* 2021;41(1):88-103.
21. O' Brien ME. Spirituality in nursing: Standing on holy ground. Sudbury, MA: Jones&Bartlett Learning; 2011.
22. Faul F, Erdfelder E, Lang AG, et al. G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav Res Methods* 2007;39(2):175–91. doi: 10.3758/bf03193146.
23. Rakhab A, Thaniwattananon P, Nilmanut K, et al. Buddhist practice, health perception and hope in persons with HIV infection/AIDS. [In Thai]. *Songkla Med J* 2007, 25(4), 259-71.
24. Netimetee S. Hope, nursing care behaviors, social support, and spiritual well-being in postpartum mothers with HIV infection [Thesis]. Chonburi: Burapha University, [In Thai]; 2004.
25. Broadbent E, Petrie KJ, Main J, et al. The Brief Illness Perception Questionnaire. *J Psychosom Res* 2006;60:631-37. doi: 10.1016/j.jpsychores.2005.10.020.
26. Steger MF, Frazier P, Oishi S, et al. The Meaning in life questionnaire: Assessing the presence of and search for meaning in life. *J Couns Psychol* 2006;53(1):80-93. doi: 10.1037/0022-0167.53.1.80.
27. Fowler J. Stages of faith: The psychology of human development and the quest for meaning. San Francisco: Harper Collins; 1981.
28. Balthip Q, Petchruschatachart U, Piriyakoontorn S, et al. Achieving peace and harmony in life: Thai Buddhists living with HIV/AIDS. *Int J Nurs Pract* 2013;9(suppl.2):7-14. doi: 10.1111/ijn.12039.
29. Mueller JR. Spiritual well-being, faith, hope, anxiety, and loneliness in oncology patients: a descriptive correlational study. [Thesis]. Ohio: Cedarville University; 2015. doi: 10.15385/tmsn.2015.1.
30. Abedi S, Foroughan M, Khanjani MS, et al. Relationship between meaning of life and spiritual well-being in the older people residing in nursing homes Shemiranat, 2014. *Salmand: Iranian J Ageing* 2016;11(3):456-65.