ความสัมพันธ์ระหว่างพฤติกรรมการเตรียมตัวเพื่อการตายกับการสนับสนุนทางสังคม ทัศนคติต่อความตาย ความเชื่อทางศาสนา อายุ และความวิตกกังวลเกี่ยวกับการตาย ในผู้สูงอายุโรคไตวายเรื้อรังระยะสุดท้าย

Associations between Death Preparation Behavior and Social Support, Attitude toward Death, Religious Beliefs, Age and Mortality Anxiety of Older Adults with End-Stage Renal Disease

นิพนธ์ต้นฉบับ **Original Article**

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วารสารไทยเภสัชศาสตร์และวิทยาการสุขภาพ 2566;18(1):23-31.

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Thai Pharmaceutical and Health Science Journal 2023;18(1):23-31.

บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษาระดับของพฤติกรรมการเตรียมตัวเพื่อการตาย และปัจจัยที่สัมพันธ์กับพฤติกรรมดังกล่าวในผู้สูงอายุชาวไทยนับถือศาสนาพุทธที่เป็นโรคไตวายเรื้อรังระยะสุดท้าย **วิธีการศึกษา:** สุ่มตัวอย่างแบบง่ายจากผู้สูงอายุที่เป็นโรคไตวายเรื้อรังระยะสุดท้ายที่รับบริการที่คลินิกโรคไตวาย โรงพยาบาลพุทธโสธร จ.ฉะเชิงเทรา จำนวน 97 คน รวบรวมข้อมูลโดยใช้แบบสัมภาษณ์ 1) ข้อมูลส่วนบุคคล 2) การสนับสนุนทางสังคม 3) ทัศนคติต่อความตาย 4) ความเชื่อทางศาสนาเกี่ยวกับความตาย 5) ความวิตกกังวลเกี่ยวกับความตาย และ 6) พฤติกรรมการเตรียมตัวเพื่อการตายในผู้สูงอายุโรคไตวายเรื้อรังระยะสุดท้าย ทดสอบความสัมพันธ์โดยใช้สถิติสัมประสิทธิ์สหสัมพันธ์ของสเปียร์แมน (r) **ผลการศึกษา:** ตัวอย่างถึงร้อยละ 79.38 มีพฤติกรรมการเตรียมตัวเพื่อการตายอยู่ในระดับสูง (mean = 52.30, SD = 4.48) พบว่าพฤติกรรมการเตรียมตัวเพื่อการตายสัมพันธ์กับการสนับสนุนทางสังคมและทัศนคติต่อความตายสัมพันธ์ทางบวกในระดับปานกลาง (r = 0.568, P-value < 0.001; r = 0.331, P-value < 0.01 ตามลำดับ) ความเชื่อทางศาสนาและอายุสัมพันธ์ทางบวกในระดับต่ำ (r = 0.260, P-value < 0.01; r = 0.169, P-value < 0.05 ตามลำดับ) ส่วนความวิตกกังวลเกี่ยวกับความตายสัมพันธ์ทางลบในระดับต่ำ (r = -0.185, P-value < 0.05) **สรุป:** ผู้สูงอายุชาวพุทธที่มีโรคไตวายเรื้อรังระยะสุดท้ายมีพฤติกรรมการเตรียมตัวเพื่อการตายระดับสูง และสัมพันธ์ทางบวกกับการสนับสนุนทางสังคม ทัศนคติต่อความตาย ความเชื่อทางศาสนาและอายุ และสัมพันธ์ทางลบกับความวิตกกังวลเกี่ยวกับความตาย

คำสำคัญ: พฤติกรรมการเตรียมตัวเพื่อการตาย, ผู้สูงอายุ, การสนับสนุนทางสังคม, ทัศนคติต่อความตาย, โรคไตวายเรื้อรังระยะสุดท้าย

Abstract

Objective: To determine death preparation behavior and factors related to the behavior among Thai Buddhist older adults with end-stage renal disease (ESRD). **Method:** The sample of 97 older adults with ESRD receiving care at the kidney disease clinic at Buddasothron hospital, Chachoengsao province. Research instruments included questionnaires for demographic characterisics, scial support, attitudes to death, religious beliefs about death, mortality anxiety, preparatory behavior for death in older adults with ESRD. Spearman ranked order correlation coefficient (r) was used test the correlation. **Results:** Majority of the participants (79.38%) had a high level of death preparation behavior (mean = 52.30, SD = 4.48). Death preparation behavior was moderately, positively correalted with social support and attitudes toward death (r = 0.568, P-value < 0.001; r = 0.331, P-value < 0.01, respectively) while slightly, positively correalted with religious beliefs and age (r = 0.260, P-value < 0.01; r = 0.169, P-value < 0.05, respectively). Mortality anxiety was negatively correlated with the behavior (r = -0.185, P-value < 0.05). **Conclusion:** Buddhist Thai older patients with ESRD had a high level of death preparation behavior. The behavior was correlaed positively with social support, attitudes toward death, religious belief and age, and negatively with mortality anxiety.

keywords: death preparation behaviors, older adults, social support, attitudes toward death, end stage renal disease

Editorial note
Manuscript received in original form: November 15, 2022;
Revision notified: November 3, 2022;
Revision completed: December 28, 2022;
Accepted in final form: January 14, 2023;
Published online: March 31, 2023.

Journal website: http://ejournals.swu.ac.th/index.php/pharm/index

Introduction

In 2020, as high as 18.31% of Thai population was the elderly.[1] Health problems among the elderly are mostly age related. Chronic kidney disease (CKD) has been more prevalent with age where kidney function declines and accelerated by various factors such as diabetes, hypertension, high blood uric acid level, bladder stone, and certain medications.[2] In the US, end-stage renal disease (ESRD) has been the prevalent among the elderly aged 65 - 74 years old.[3] In Thailand, CKD prevalence estimates in those aged 61 – 69 and 70 years or older were 32.5% and 53.4%, respectively.[2] Even with an advanced renal replacement therapy, mortality rate among CKD patients has not been substantially improved.

Based on the World Health Organization data, CKD was ranked the 27th most prevalent cause of death in 2010, and moved up to the 12th in 2017.[4] Data in Thailand and other countries indicate that the elderly with ESRD had a 50% mortality rate in the first year after diagnosis.[5] Patients with ESRD receiving palliative care had a mortality rate of 40%.[6] Such high mortality rate suggests renal replacement therapy cannot prolong life when the patients reach ESRD.[7-9] Causes of death in CKD patients are usually cardiovascular diseases. At the end of their life, the patients lost capacity in decision making. CKD patients with renal replacement therapy have not prepared for their passing. They have never talked with their family members or healthcare providers about the needs for their end of life. At the last month of their life, the patients were treated in the critical care unit or life resuscitation unit to prolong their life without concerning for quality of life before passing. Such life-prolong treatment usually causes pain and suffering to the end-of-life patients.[10]

The elderly with proper preparation for dying and death would face less suffering and face death with peace and dignity. Based on the concept of death and dying of Corr and colleagues, basic preparation should consider physical, psychological, social and spiritual aspects of dying.[11]

Previous research suggest that factors associated with dying preparation among the elderly include social support, attitude toward dying, religious belief about dying, age, and anxiety about dying.[10-22] In ESRD elderly patients with life-long illnesses, social support is encouraging the elderly to be able to manage stress, fear, and anxiety[14,15,20] and help them prepare for death and dying.[16] The elderly with proper attitude toward death and careful living are more likely to have proper behavior of preparing for death and dying.[20,22] Buddhist elderly use the teaching as their path for their peace of mind, and means for physical and mental healing. The belief in religion and natural laws that things happen, stay, and go away is common helps the elderly face dying with peace of mind, no denial or rejection, and no fear of death. This helps the elderly endorse more preparing for dying and death.[10,15,20] With the realization on physiological changes with age as seen in deteriorating kidney function and end of life illnesses, the elderly could see the dying process more clearly and enforce themselves to engage more in preparing their dying. In addition, the need for peaceful dying also helps the elderly accept dying.[10,13,17,20]

For the elderly with ESRD who have a high level of anxiety about dying are facing non-stop detrimental physiological changes. Anxiety with long illness is associated with a constant release of catecholamine, a neurotransmitter, to the blood stream. Epinephrine and norepinephrine, two catecholamines, stimulate neurological system resulting in awakening, anxiety, fear of death, unpreparedness to accept that the illness cold lead to the end of life.[5,18] Such constant physical and mental stages disallows learning and preparing for dying.

In Chachoengsao province of Thailand, the number of ESRD patients has been increasing from 6.26% to 7.29% and 9.76% in 2019 to 2021, respectively which was higher than the nationwide rate of 7.64%.[23] A large proportion of ESRD patients in Chachoengsao province could imply that suffering at the end of life among these patients could be immense. Previous research suggests that the promotion for health behavior and the care for end-of-lie patients have been limited mostly to patients with cancer and AIDs, not ESRD. In addition, there have been no studies on factors affecting death preparation behavior in SERD patients. There was thus a need to conduct a study to determine the death preparation behavior and its affecting factors in ESRD elderly patients in Chachoengsao province of Thailand. The findings could be useful in guiding planning for care for ESRD elderly patients for a better preparation of death.

Specifically, the objectives of the study were to determine the scores and levels of death preparation behavior, and whether the score of the behavior was correlated with age, anxiety toward dying, social support, religious belief, and attitude toward dying. Accordingly, it was hypothesized that the score of death preparation behavior was correlated with age, anxiety toward dying, social support, religious belief, and attitude toward dying.

For conceptual framework, the study was based on the preparation for dying and end-of-life situation in the elderly, palliative care, the behavior for good death, factors that are helpful for facilitating the passage of the elderly to their peaceful end of life. These elements were based on the concept of Corr and colleagues proposing the task-based model for coping with dying.[11] This model for coping with dying offers understanding on finding preventive measures, solutions, and adjustment of the daily living before dying in four aspects including physical, psychological, social, and

spiritual. Specifically, social support, attitude toward dying, death-related religious belief, age, and anxiety toward dying.

Methods

In this descriptive correlation research, the study population was 1,060 elderly patients aged 60 years old or older who was Buddhist and diagnosed with ESRD residing in Chachoengsao province based on the 2020 registry of the Health Data Center.[23] The sample size was based on a power analysis using the software program G* Power 3.1.9.7.[24] Based on an effect size of 0.25 from a previous work[20], a type I error of 5%, a power of 80%, a sample size of a bivariate normal model was 97 participants.

To be eligible, individuals in the study population had to be able to communicate with the researcher, have an intact perception on time, place, person, be able to complete the questionnaires with adequate understanding. They had to take the Six Item Cognitive Impairment Test (6 CIT-Kingshill Version 2000) and had a score of 0 – 7 points which indicates no cognitive impairment.[25] They were willing to allow data collection at their home. They had to have at least two shots of covid-19 vaccination. They had no urgent or severe illness either physical or psychological ones, such as dizziness, shortness of breath, discomfort, or agitation at any time of the participation. Accordingly, those with exacerbation of their chronic illnesses or were not willing to complete the survey at any time were excluded.

The participants were selected using the simple random sampling without replacement from the list of the elderly with ESRC receiving care the kidney disease clinic of Buddasothorn Hospital, Chachoengsao province. The data collection was conducted was from March to May 2022.

Research instruments

The study used two sets of instruments. The first tool was the Thai version of the Six-Item Cognitive Impairment Test [6CIT]).[25] The second set was a 6-part questionnaire. The first part collected demographic characteristics and clinical status including age, gender, marital status, family type (nuclear or extended family), and type of renal replacement therapy.

The second part of the second set was social support questionnaire[20] which was developed based on the concept of social support associated with health of Schaefer, Coyne and Lazarus.[21] The questionnaire was tested in 236 Thai elderly individuals and was found to have an acceptable internal consistency reliability (Cronbach's alpha coefficient of 0.81). The questionnaire contains 15 items with a 4-point rating scale ranging 4-the most social support received, to 3-high social support received, 2-low social support received, and 1-no social support received. With the total score of 15 – 60 points, social support was categorized as low, moderate, and high (15 – 29, 30 – 44, and 45 – 60 points, respectively).

The third part of the second set was the attitude toward death.[26] It was tested in 372 individuals in an elderly club and was found to have a high internal consistency reliability with a Cronbach's alpha coefficient of 0.98. Of a total of 18 questions, there were 14 and 4 positive and negative statements, respectively. The response was a 5-pint rating scale ranging from 5-the most agreed, to 4-highly agreed, 3-moderately agreed, 2-less agreed, and 1-the least agreed. Scores of negative statements were reversed. Attitude toward death was categorized as low, moderate, and high (18 – 42, 43 – 66, and 67 – 90 points, respectively).

The fourth part of the second set was the 13-ietm religious belief about death questionnaire[20] which was developed based on a Buddhism belief.[10] It was tested 236 Thai elderly individuals and an acceptable internal consistency reliability was found (Cronbach's alpha coefficient of 0.77). The response was a 3-point rating scale ranging from 3-highly believed, to 2-not certain, and 1-highly not believed. The belief was categorized as low, moderate, and high (13 – 21, 22 – 30, and 31 – 39 points, respectively).

The fifth part of the second set was the 20-item Thai version of the Arabic Scale of Death Anxiety of Abdel-Khale.[27] It was back-translated from English version as guided by Sperber.[28] With the test in the elderly, it was found to have a high internal consistency reliability (Cronbach's alpha coefficients of 0.88 – 0.93). The questions asked the participants to rate their feeling, behavior, and opinion about death. The response was a 5-point rating scale ranging from 5-the most agreed, to 4-highly agreed, 3-moderately agree, 2-disagreed, and 1-highly disagreed. The anxiety about death was categorized as low, moderate, and high (20 – 46, 47 – 73, and 74 – 100 points).

The sixth part of the second set was the death preparation behavior questionnaire for the ESRD elderly patients. The questionnaire was developed in Thai language[20] based on the concept of Corr and colleagues.[11] A test in 236 Thai elderly showed an acceptable internal consistency reliability

(Cronbach's alpha coefficient of 0.76). The questionnaire contained 29 items covering 4 aspects of death preparations namely physical (6 items), psychological (7 items), spiritual (9 items), and social (7 items) aspects. The response was either "having done that" and "not having done that." With the total of 58 points, death preparation behavior was categorized as low, moderate and high (29 – 38, 39 – 48, and 49 – 58 points, respectively).

Participant ethical protection

The study was approved by the Ethic Committee for Human Research of Graduate School, Burapha University (approval number: IRB3- 106/ 2564). The director of Buddhasothorn Hospital and the director of the Chachoengsao Provincial Health Administration Office were contacted for the access to the registry of ESRD patient data and the permission for the home survey.

Data collection procedure

Once permission was granted, the researcher randomly selected the sampled and screened for eligibility as mentioned above. The researcher (AY) went to the house of each of the selected eligible participants. The researcher introduced herself to the participant. The researcher provided the objectives, details, and voluntary nature of the study. The participants were informed that they could end the interview at any time with no consequences on the care they received. The researcher read questions and filled the answers for the participant. The interview took about 45 – 60 minutes for each participant.

Data analysis

Demographic characteristics, clinical status, scores and levels of each of study variables were present with mean with standard deviation (SD) and frequency with percentage. Correlations between death preparation behavior and associating factors (i.e., age, social support attitude towards death, religious belief about dying, and anxiety about dying) were tested using Pearson's product moment correlation or Spearman's ranked order correlation analyses, as appropriate. Statistical significance was set at a type I error of 5% (or *P*-value < 0.05). All statistical analyses were performed using the software program SPSS version 26.

Results

Of the 97 participants, there were slightly more women (51.55%) than men. The majority was in their early elderly age (60 - 69 years old) (42.27%), followed by middle elderly age (70 - 79 years) (39.17%). The mean age was 71.63 years (SD = 7.34). The majority was married (58.76%), followed by widow (27.84%), and with extended family (54.64%) and nuclear family (45.26%). The most provided renal replacement therapy was hemodialysis (45.36%), followed by palliative care (44.33%) and continuous ambulatory peritoneal dialysis (CAPD) (10.31%).

Table 1 Demographic characteristics and clinical status of the participants (N = 97).

Characteristics	N	%
Gender		
Male	47	48.45
Female	50	51.55
Age (years), mean = 71.63 ± 7.34		
Early elderly (60 - 69 years)	41	42.27
Middle elderly (70 - 79 years)	38	39.17
Late elderly (80 or higher)	18	18.56
Marital status		
Single	9	9.28
Married	57	58.76
Widowed	27	27.84
Divorced or separated	4	4.12
Family size		
Nuclear family	44	45.36
Extended family	53	54.64
Renal preplacement therapy		
Hemodialysis	44	45.36
Continuous ambulatory peritoneal dialysis	10	10.31
Palliative care	43	44.33

With a mean score of 52.30 ± 4.77 points, most participants had the overall death preparation behavior at a high level (79.38%). For each individual aspect of death preparation behavior, majority of the participants were at a high level, i.e., 69.08%, 73.20%, and 78.35%, for physical, psychological, and spiritual aspects, respectively. Social behavior was rated a moderate level by the majority (45.36%), followed by high level (43.30%).

The first three death preparation behaviors with the highest rating were accepting death as a natural process of life (mean = 2.00 ± 0.00 points), followed by expecting the death to be peaceful or no suffering (mean = 2.00 ± 0.00 points), and readiness to receive the news about the end-of-life illness from the physician (mean = 1.95 ± 0.22 points) (Table 3). On the other hand, the three behaviors with the lowest rating were preparing necessary documents for trusted

significant others to conveniently access (mean = 1.41 ± 0.49 points), spending time to do valuable and helpful for others (mean = 1.42 ± 0.49 points) and preparing legal will on assets (mean = 1.49 ± 0.50 points) (Table 3).

Table 2 Mean scores and levels of death preparation behavior of the ESRD elderly participants (N = 97).

Death preparation behavior	Level	
	N	%
Overall behavior, mean = 52.30 ± 4.77 points.		
Moderate	20	20.62
High	77	79.38
Physical behavior, mean = 10.92 ± 1.73 points.		
Low	15	15.46
Moderate	15	15.46
High	67	69.08
Psychological behavior, mean = 12.97 ± 1.02 points.		
Moderate	26	26.80
High	71	73.20
Spiritual behavior, mean = 16.45 ± 1.50 points.		
Low	2	2.06
Moderate	19	19.59
High	76	78.35
Social behavior, mean = 11.93 ± 1.95 points.		
Low	11	11.34
Moderate	44	45.36
High	42	43.30

Table 3 Mean score of each death preparation behavior of the ESRD elderly participants (N = 97).

Death preparation behavior	Mean*	SD
Physical		
1. assigning the person deciding the treatment when severely ill and unable to communicate.	1.94	0.242
2. choosing care setting when severely ill.	1.85	0.363
3. choosing the treatment before severely ill.	1.82	0.382
4. asking offspring or close person for the place to die	1.78	0.414
5. choosing the funeral place	1.78	0.414
6. choosing funeral ceremonies	1.75	0.434
Psychological		
1. accepting death as a natural process of life	2.00	0.000
2. readiness to receive the news about the end-of-life illness from the physician	1.95	0.222
3. readiness to hear that the illness could be life-threatening	1.94	0.242
4. choosing the person to talk about suffering if severely ill.	1.92	0.277
5. accepting pain and discomfort if severely ill.	1.88	0.331
6. choosing the person to talk about the guilt.	1.88	0.331
7. spending time to do valuable and helpful for others	1.42	0.497
Spiritual		
1. expecting the death to be peaceful or no suffering	2.00	0.000
2. recalling the good deeds in the whole life.	1.92	0.353
3. living a daily life with encouragement and no despair	1.91	0.292
4. forgiving those having conflict with.	1.87	0.342
5. letting go of acquired assets.	1.86	0.353
6. asking for forgiveness from others.	1.86	0.353
7. practicing based on religious belief.	1.75	0.434
8. letting go of the loved ones.	1.73	0.445
9. attending merit making regularly.	1.57	0.498
Social		
1. expressing love to family members and significant others.	1.93	0.260
2. helping self as much as possible to not be a burden to family members.	1.92	0.227
3. solving conflict with others.	1.88	0.331
4. assigning all responsibilities to reliable persons.	1.79	0.407
5. arranging all expenses for end-of-life care and funeral with family members.	1.52	0.502
6. preparing legal will on assets	1.49	0.503
7. preparing necessary documents for trusted significant others to conveniently access	1.41	0.495

* maximum of 2 points.

For factors affecting the death preparation behavior, social support was at a moderate level for most of the participants (76.29%), while attitude toward death and religious belief about death were at a high level (71.13% and 94.85%, respectively). Anxiety about death, as a negative factor to the death preparation behavior, was rated at a low level by most participants (67.01%) (Table 4).

Table 4 Mean scores and levels of factors affecting death preparation behavior of the ESRD elderly participants (N = 97).

Factors	Levels	
	N	%
Social support, mean = 40.11 ± 6.11 points.		
Low	4	4.12
Moderate	74	76.29
High	19	19.59
Attitude toward death, mean = 70.36 ± 6.68 points.		
Low	0	0
Moderate	28	28.87
High	69	71.13
Religious belief about death, mean = 36.53 ± 3.32 points.		
Low	0	0
Moderate	5	5.15
High	92	94.85
Anxiety about death, mean = 41.27 ± 11.70 points.		
Low	65	67.01
Moderate	31	31.96
High	1	1.03

The overall death preparation behavior was significantly correlated with social support with the highest extent (r = 0.568, P-value < 0.001), followed by attitude about death (r = 0.331, P-value < 0.01), religious belief about death (r = 0.260, P-value < 0.01), and age (r = 0.169, P-value < 0.05). As expected, the overall behavior was significantly, negatively correlated with anxiety about death (r = -0.185, P-value < 0.05) (Table 5).

Table 5 Correlations between the overall death preparation behavior and its affecting factors of the ESRD elderly participants (N = 97).

Factors	*r**	*P*-value
Social support	0.568	< 0.001
Attitude toward death	0.331	< 0.01
Religious belief about death	0.260	< 0.01
Anxiety about death	-0.185	< 0.05
Age	0.169	< 0.05

* Spearman's ranked order correlation.

Discussions and Conclusion

The present study revealed that the death preparation behavior in Thai elderly with ESRD was mostly at a high level (79.38%). This level of death preparation behavior is higher than what was found in previous studies in Pattani province and Chiangmai province where the elderly in the elderly clubs had only 58.47% and 55.9% at the high level.[20,29] This could be because participants in our study were with a serious illness, but those in the two previous studies were less frail. They were community dwelling elderly participating the elderly club.[20,29] Participants in our study had ESRD which could lead to end-of-life stage quickly. They were facing anemia, fluid overload, ketoacidosis, and uremia which could be life-threatening. They needed regular clinic visits for treatment and renal replacement therapy. Such regular and frequent care visits allowed them to frequently receive information and advice on how to prepare for the end-of-life stage from nurses and physicians[30] According to the chronic illness trajectory concept of Balentine[31], ESRD patients face deteriorating functions of organa, fluctuating symptoms and organs ceasing to function and death.

The understanding on the illness and its impact on the patient and their family members is helpful in planning the care and advising the death preparation behavior according to the concept of Corr and colleagues.[11] The preparation should cover also four aspects of preparing behavior including physical, psychological, spiritual, and social aspects. For the physical behavior, the most rated behavior was assigning the person deciding the treatment when severely ill and unable to communicate (mean = 1.94 out of 2 points or 93.81% of participants; while accepting death as a natural process of life was approved by all participants (mean = 2.00 out of 2 points or 100% of participants) for psychological behavior. For spiritual behavior, all participants expected the death to be peaceful or no suffering (mean = 2.00 out of 2 points or 100% of participants). For social behavior, most participants expressed love to family members and significant others (mean = 1.73 out of 2 points or 92.78% of participants).

Based on Corr and colleagues' concept of preparing for death[11], the realization on the death is the only way for the elderly to live their meaningful life and allow for themselves, family members, and significant others to be prepared for the dying. The realization could help all parties to manage stress, alleviate the grief, enhance psychological strength, and promote death preparation for a good death.[17,32]

Social support was significantly, positively correlated with the death preparation behavior (r = 0.568, P-value < 0.001). The more social support, the more proper behavior, and vice versa. The social support for ESRD patients at the eld-of-life stage could be psychological support such as respect and encouragement from family members and significant others when ill. The elderly thus could rely that they will be taken care of by others when severely ill. The elderly with end-of-life illness needed the care from family members, being surrounded by loved ones, and living in their familiar surroundings.[14,32] Such social support could help promote proper death preparation behavior. The Buddhism religion belief could also provide social support which could help the elderly be calm, peaceful, and less anxious. Such peaceful state of mind allows the elderly and family members to have a better well-being. The support of religious materials such as Dharma book and Dharma voice records/videos, and Buddhist activities such as offering for merit and visiting relatives could help the elderly be at peace and more easily to accept changes in life.[10,15,16] Other social support was information support of symptoms, treatment, and advice on death preparation. The elderly could also exchange information and advice about death preparation.[11,16] Our finding is consistent with previous studies revealing that social support was associated with positive behavior for death preparation among the elderly from the elderly club.[15,20]

Attitude toward death had a significant, positive correlation with the death preparation behavior in our study (r = 0.331, P-value < 0.01). The attitude toward death preparation in the elderly was under the influence of society, culture, religion, and belief. The elderly are more likely to accept the deteriorating physical changes over time as the truth. They accept failure and success, and the peaceful dying.[26,33] Our study found as high as 71.13% of the participants rated their attitude toward death at a high level. Statements that the elderly rated at a high level included the statement that death is a natural process for all living creatures. For attitude with low rating, the participants thought that suicide is evil, dying is a lonely stage of life, and death is the passage to a new world. This finding is consistent with the concept of Corr and colleagues[11] stating that the preparation for spiritual death could mean that the acceptance that all lives must die so that individuals could wish to reach suffering-free death. Such

peaceful death could be achieved by psychologically depending on religious belief, teaching of Dharma or other religions, realization of spiritual needs and proper attitude toward death. The elderly need understanding ESRD as an uncurable disease, life-prolonging nature of the treatment, complications of the disease which could lead to critical stage of life, deteriorating physical changes over time with the disease progression. These understandings allow the elderly to see their dying process and accept that they could die at any time. Thus, they should not be careless about living. Constant realization on death could lessen fear of death. Based on Buddhism, Buddhists view death as natural process or truth and a payback for karma. The peaceful death would allow for a better next life and the real peace.[10,13,15] Therefore, positive attitude cold help the elderly perform death preparation behavior such as religious activities (praying and offering merit-making), and proper problem management to alleviate spiritual suffering.[33] The finding in our study is consistent with a previous work revealing that positive attitude was associated with better death preparation behavior among the elderly from the elderly club in Chonburi province.[22]

Religious belief about death was found significantly, positively correlated with the death preparation behavior with a low extent (r = 0.260, P-value < 0.01). This could be mainly due to the Buddhism belief among the participants who were mostly Buddhist (94.85%). The main Buddhism teaching was about the truth of natural rule of arising, sustaining, and ending of existence.[13,15,20] The good deeds could alleviate suffering. Accepting death helps reach a peaceful death. Constant realization of death helps lessen the fear of death. Letting go of things and persons helps alleviate the suffering from loss. Being mindful and concentrated helps suffering at the end of life. Making merit and forgiving other's bad deeds could alleviate bad karma.[10] All of these beliefs could help individuals prepare for their death.[10,11] Our finding is consistent with previous works show that religious belief about death was positively associated with the death preparation behavior among the elderly from elderly clubs.[15,20,35]

Age was significantly, positively correlated with the death preparation behavior (r = 0.169, P-value < 0.05). In other words, the older, the more proper behavior. The older they got, the more they accepted their own physiological changes. They were more likely to identify their positive and negative traits. They had more mental stamina and more understanding about the nature of life.[29,34] The older persons had more life experience than the younger ones, especially facing losses, critical circumstances, physiological changes, and deteriorating physical strength. These experiences allowed them to accept and prepare for death. This finding is consistent with previous research showing that age was positively associated with death preparation behavior among elderly in elderly clubs in Thailand.[15,16,20] Age was also found to predict the death preparation behavior.[19]

Anxiety about death was significantly, negatively correlated with the death prevention behavior (r = -0.185, P-value < 0.05). Since majority of the participants had a low level of anxiety (67.01%) but a high level of the behavior (79.38%), it was more likely to have such a negative correlation. It was found that a large proportion of participants had a high of the fear of pain accompanying the dying, being anxious about the unknown after the death, and fear of severe disease (data not shown). For the anxiety with rated as a low level, these were fear of staring at the corpse, fear of getting close to cemetery or burial ground, and fear of looking at the deceased. Previous study stated that anxiety about death depended on gender, age, religious belief, education, health status, and experience about death.[36] Anxiety could be lessened with age and experience with ESRD. These patients could be more accepting for their illness and loss, hence less struggle and subsequent anxiety. A study revealed that with their dependence on religious belief and faith, Thai elderly accepted death as a natural process.[15] Therefore, Thai elderly had a low anxiety level and a good preparation for their death. Our finding is consistent with previous studies showing that anxiety about death among elderly at the elderly club was negatively associated with the death preparation behavior.[15,20] Our finding is also consistent with a study revealing that anxiety about death was associated with unplanning and the intention to unplan death preparation among the elderly in Hongkong.[37]

The findings could be helpful for nurses and healthcare providers in providing program to enhance the death prevention behavior for Buddhist ESRD elderly patients by promoting social support, proper attitude toward death, and religious belief, and reducing anxiety about death. Activities should focus on promoting affection and bond in the family, allowing for more sharing, expressing emotions and needs. Activities based on Buddhism belief such as offering for merit making and praying should be held. At the end-of-life stage,

a person responsible for decision to end life should be assigned.

Regarding limitations, this study represented only Buddhist Thai. To generalize the findings to Thais with other religions is limited, especially those Thai Muslims which are relatively populated in Chachoengsao province. To extend to other religions, the questionnaire on religious beliefs on other religions should be developed for future studies. The study however had at least one strength. The Covid-19 situation forced the researcher to go conduct the interview at individual participant's house instead of the kidney disease clinic. This could result in answers that were closer to the truths of the participant's life.

In conclusion, Buddhist ESRD elderly patients in Chachoengsao province had a high level of the death preparation behavior. The behavior was significantly, positively correlated with social support, attitude toward death, religious belief about death, and age; while significantly, negatively correlated with anxiety about death.

Acknowledgements

The authors thank Graduate School, Burapha University for financial support and all participants for their kind contribution.

References

1. Department of Older Persons. Statistics on the elderly. 2020. (Accessed on Jan. 15, 2020, at http;///www.dop.go.th/th/know/1) (in Thai)
2. Ariyanon W, Siribamrungwong M, Tironthanakul K. Chronic kidney disease in the elderly. In: Kantachuwessiri S, Chancharoenthan W, Kiatsunthron K, Kochasenee P, Chailimpamontri W, Trakanvanich T (eds.). Chronic kidney disease. 2nd ed. Bangkok. Text and Journal Publication, 2019: pp.1090-1111. (in Thai)
3. Ahmed FA, Catic AG. Decision-making in geriatric patients with end-stage renal disease: thinking beyond nephrology. *J Clin Med* 2018;8:1-11.
4. GBD Chronic Kidney Disease Collaboration. Global, regional, and national burden of chronic kidney disease, 1990-2017: A systematic analysis for the Global Burden of Disease Study 2017. *Lancet* 2020; 395:709-733.
5. Holley JL. Advance care planing in CKD/ESRD: An evolving process. *Clin J Am Soc Nephrol* 2012;7:1033-1038.
6. Daengsibua A, Topak-ngam A, Tatiyanuphanwong S, Iimwattananon C. Follow-up of stage 5 chronic kidney disease patients who choose non-dialysis treatment. *J Health Syst Res* 2015;9:181-192. (in Thai)
7. Johnston S, Noble H. Factors influencing patients with stage 5 chronic kidney disease to opt for conservative management: a practitioner research study. *J Clin Nurs* 2012;21:1215-1222.
8. Thipkanjanarekha K, Saleekul S, Apisitiwassana N, Thiammok M. Planning for self-care in advance for good death. *Boromarajonani Coll Nurs* 2017;33:138-145. (in Thai)
9. Phuengchompoo V. The situation of palliative care in Thai elderly with chronic renal failure. *J Nurs Practit* 2014;41:166-177. (in Thai)
10. Wisalo P. Facing death peacefully, Vol 2. Bangkok. Samlada, 2017. (in Thai)
11. Corr CA, Nabe CM, Corr DM. Death and dying, life and living. 9th ed. USA. Wadsworth, 2009.
12. Boondej C, Virojrat V, Chitmontree N. The relationship between health conditions, religious beliefs, religious practices, life satisfaction and aging conditions among the elderly in the community. J Nurs Council 2017;32:66-77. (in Thai)
13. Saengchat B. Nursing care of patients near death and after death. Khon Kaen. Klang Nana Vittaya Printing House, 2017. (in Thai)
14. Phiriyaphan P, Klinwichit W, Injai P, Somanusorn S. Elderly and family paradigm in preparing for a peaceful death at the hospital. *J Nurs Educ* 2017;10:1-18. (in Thai)
15. Apinonto C. Factor related to pre-death preparation behavior of elderly in meditation club 24 hrs. *J MCU Human Perspect* 2019;25:283-291. (in Thai)
16. Fereidouni A, Rassouli M, Kianian T, et al. Factors related to good death in the Eastern Mediterranean region: a systematic review. *East Mediterr Health J* 2022;28:601-609.
17. Repka I, Kuzmicz I. Influence of selected factors on the quality of dying and death in palliative care. *J Pub Health Nurs Med Rescue* 2017;1:8-13.
18. Kahraman S, Erkent D. The mediator role of attitude towards aging and elderliness in the effect of the meaning and purpose of life on death anxiety. *Curr Psychol* 2022. (doi: 10.1007/s/2144-022-23087-x)
19. Moore KJ, Crawley S, Vickerstaff V, Cooper C, King M, Sampson EL. Is preparation for end of life associated with pre death grief in caregivers of people with dementia?. *Inter Psychogeriatr* 2020;32:753-763.
20. Rangsrikosai S, Piphatvanitcha N, Phaokanha R. Factors related to the preparing behavior for coping with death and dying among older adults in the elderly club Pattani province. *Songkhla Nakarin J Nurs* 2013;33:43-56. (in Thai)
21. Schaefer C, Coyne JC, Lazarus RS. The health-related functions of social support. *J Behav Med* 1981;4:381-406.
22. Sujaritworakul M, Somanusorn S. Factors related to preparation for death of Thai Buddhist elderly. *Kuakarun J Nurs* 2018;25:154-169. (in Thai)
23. Chachoengsao Provincial Public Health Office. Health Data Center. 2020. (Accessed on Jan. 15, 2020, at from:https://cco.hdc.moph.go.th/hdc/main/index.php) (in Thai)
24. Faul KF, Erdfelder E, Georg-Lang A, Buchner A. G*Power 3:A flexible statistical power analysis program for the social, behavioral, and biomedical science. *Behav Res Methods* 2007:39;175-191.
25. Udonsat S, Jullamate P, Piphatvanitcha N. Male caregiver burden of elderly with stroke and its related factors. National Conference, 2018. Ubonratchatani. University of Ratchathani, 2018. (in Thai)
26. Kritsadee D, Surinya T. Attitude toward death self-awarencess family support and depression of the elderly club at Amphoe Sikhui Nakhon Ratchasima Province. dissertation. Bankok. Kasetsart University, 2008. (in Thai)

27. Abdel-Khalek AM. The Arabic scale of death anxiety (ASDA): Its development, validation, and results in three Arab countries. *Death Stud* 2004;28:435-457.
28. Sperber AD. Translation and validation of study instruments for cross-cultural research. *Gastroenterology* 2004;126:124-128.
29. Sapinun L. Gerotranscendence and death preparation among the elderly. dissertation. Chiang Mai. Chiang Mai University, 2002. (in Thai)
30. Puengchomphu W. Nursing care of chronic kidney disease patients receiving hemodialysis. Chiang Mai. Administration center Chiang Mai University; 2015. (in Thai)
31. Ballentine JM. The five trajectories: Supporting patients during serious illness. The California State University Institute for Palliative Care. 2018. (Accessed on Jan. 1, 2022, at https://csupalliativecare.org)
32. Kirby E, Broom A, Good P, Wootton J, Adams J. Families and the transition to specialist palliative care. *Mortality* 2014;19(4):323-341. (doi: 10.1080/13576275.2014.916258)
33. Kumkwan Y, Chaiyawut P. Preparation of care givers to promote death, dignity, in the end of life patients. *Phranakhon Rajabhat Res J Sci Technol* 2016;11:125-138.
34. Massmann AD. Exploring Gerotranscendence and how it relates to deprssion and attitudes about death. Disseration. Mankato. Minnesota Stage University, 2012.
35. Naammoh N, Wirojratana V, Jitramontree N. The relationships between demographic factors beliefs religious practice meaning of life and gerotranscendence in patient with end stage chronic kidney disease. *J Nurs Council* 2015;30:58-71. (in Thai)
36. Jaruchinda W. Reducing anxiety about death through Buddhist psychology. *J Buddhist Psychol* 2018;3:1-2. (in Thai)
37. Zhang J, Peng J, Gao P, et al. Relationship between meaning in life and death anxiety in the elderly: self-esteem and mediator. *BMC Geriatr* 2019;19(308):2-8.