



## Perception of a “good death” in Thai patients with cancer and their relatives

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### ARTICLE INFO

#### Keywords:

Psychology  
Home death  
Good death  
Advance care planning  
End-of-life care  
Palliative care

### ABSTRACT

**Background:** Understanding the perceptions regarding what constitutes a “good death” among cancer patients and their families could help healthcare teams to ensure proper palliative and supportive care.

**Objectives:** To demonstrate and compare the wishes cancer patients and the perceptions of their relatives regarding end-of-life care, and to identify factors associated with patients’ preferences regarding place of death.

**Methods:** A sample of cancer patients and their relatives who attended the Srinagarind Hospital (Thailand) oncology clinic or day chemotherapy from September 2017 to August 2018 were enrolled. Questionnaires were given to the participants, in which the patients were asked to respond based on their own end-of-life preferences, and relatives were asked to imagine how the patients would respond to the questions.

**Results:** One hundred eighty pairs of patients and relatives were recruited. Respondents in both groups placed importance on place of death, relationship with family, physical and psychological comfort, and relationship with the medical staff. Both groups generally agreed with the statements on the questionnaire (10/13 statements). Relatives underestimated the preferences of the patients in 3 areas: “not being a burden to others,” “preparation for death,” and “physical and psychological comfort.” Being married (adjusted odds ratio (AOD) 6.4, 95% confidence interval (CI) 1.1,36.5), having had more than 6 years of education (AOD 6.5, 95%CI 1.8,23.7), having lung cancer compared to colon cancer (AOD 12, 95%CI 1.2,118.7), duration after cancer diagnosis (AOD 0.9, 95% CI 0.93,0.99), previous hospital admission (AOD 5.7, 95%CI 1.5,21.2), and life satisfaction (AOD 17.6, 95%CI 2.9,104.9) were factors associated with preference for home death.

**Conclusion:** Thai cancer patients and their relatives indicated similar preferences with regard to what constitutes a good death and patients’ wishes for their end-of-life period. However, the patients’ relatives underestimated the importance patients placed on statements in three domains. Factors that influenced a preference for a home death were identified.

### 1. Introduction

Although medical developments continue to allow doctors to extend the lives of their patients to an increasingly greater extent, these treatments might not improve patients’ quality of life, particularly in those with incurable diseases (Yun et al., 2018). Cancer is the leading cause of mortality in Thailand (‘CDC global health-Thailand’, n.d.), but the course of the disease is often predictable. Patients with cancer experience various physical and psychological problems throughout the dying

process (Miyashita et al., 2007) including becoming more dependent on others and being unable to make decisions during their terminal phase (Cohen-Mansfield et al., 2018). Cancer care tends to be both rigorous and geographically variable, depending primarily on local practice patterns rather than patients’ preferences (Narang et al., 2015).

Achieving a good death is one of the most fundamental goals of palliative care. A previous report defined the key elements of a good death as pain and symptom management, preparation for death, achieving a sense of completion, being able to make decisions about treatment preferences,

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<https://doi.org/10.1016/j.heliyon.2019.e02067>

Received 3 April 2019; Received in revised form 22 May 2019; Accepted 5 July 2019

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and being treated as a “whole person” (Christian Schulz-Quach, 2018). Perceptions as to what constitutes good death, however, vary according to cultural background, religion, and other situational factors such as patients' and their families' past experiences with death (Blackhall et al., 1995; Doolen and York, 2007; Kastbom et al., 2017). For example, a qualitative study in Sweden among cancer patients in the palliative phase of home or hospital care showed that a good death was associated with “awareness of death,” “preparation for death,” “physical and psychological comfort,” and “good relationship with family” (Kastbom et al., 2017) while patients in a Japanese study rated ten domains as being important to a good death including “physical and psychological comfort,” “dying in a favorite place,” “good relationship with medical staff,” “maintaining hope and pleasure,” “not being a burden to others,” “good relationship with family,” “physical and cognitive control,” “environmental comfort,” “being respected as an individual,” and “life completion” (Miyashita et al., 2007). The results of a stratified cross-sectional survey in Korea regarding the top three important components of a good death among cancer patients and family caregivers showed that patients placed emphasis on “good relationship with family,” “not being a burden to family,” and “preparation for death” (Yun et al., 2018).

There has been limited research conducted on this topic in Thailand. One qualitative study regarding the experiences of Thai patients with advanced cancer in home-based palliative care revealed that there were three main issues that emerged including “state of being” experience facing the end of life, “quality of life” (feeling satisfaction with one's life and care), and what the authors call “compassionate care in the Buddhist view,” by which they mean a holistic approach to caregiver assistance, resources, and supplies informed by Buddhist principles (Saeed, 2016). Caregivers in Thailand tend to be primarily concerned with two aspects of palliative care: promoting comfort and preparing patients for a peaceful death. Caregivers can accomplish this by respecting the patient's wishes, valuing the patients as dearly loved, helping patients to understand death as a natural process, allowing religious rites to be performed, and helping the patients' families manage their finances (Wisoso et al., 2017). Many people in Thailand also believe that family members must pay back a “debt of life” to their loved ones by providing them with high-tech hospital care, even if their conditions are in the final stages. There is also the belief patients should not know about the full truth about their illnesses, as it can cause their condition to worsen, and that people should die in their own homes (S. Stonington, 2011; S. D. Stonington, 2012). It was also found that most terminally-ill patients from northern Thailand (57.2%) expressed a desire for their physician to be their surrogate decision maker at the end of life, followed by their relatives (28.3%), and both their relatives and physician (14.5%). Conversely, in cases of cardiopulmonary resuscitation, the highest proportion of patients (44.1%) desired both a family member and physician as surrogates, followed by a family member alone (33.6%), and their physician alone (22.4%) (Sittisombut and Inthong, 2009).

Advance care planning is a key component of optimal palliative care. However, Thailand is in an early phase of palliative care development and lacks a standardized core curriculum for medical and nursing education. Given that there is a high prevalence of cancer in Thailand, improving palliative care for cancer patients is an urgent issue. Better understanding attitudes toward death in both patients and their relatives would help healthcare providers become more aware of their patients' preferences and ensure that they provide them with appropriate support, resulting in higher quality end-of-life care. Therefore, the aims of this study were to understand and compare these perceptions between cancer patients and their relatives and to identify factors associated with cancer patients' preferences regarding place of death.

## 2. Methods

### 2.1. Participants and setting

This was a cross-sectional study in which we recruited cancer patients

and their relatives who attended the Srinagarind Hospital (Khon Kaen University Faculty of Medicine, Thailand) oncology clinic or day chemotherapy from September 2017 to August 2018. Exclusion criteria were comorbidity with dementia or depression severe enough to interfere with the participant's thinking process or communication as assessed by a team of researchers. Assessment of potential participants was carried out based on clinical judgement and standard screening tools.

### 2.2. Instruments

The questionnaire was developed based on a literature review with regard to the elements that constitute a “good death.” The development of the questionnaire has been described in detail elsewhere (Limpa-wattana et al., 2019; Manjavong et al., 2019; Srinonprasert et al., 2014). The questionnaire examined demographic data, health status, previous experience in end-of-life care, type and staging of cancer, and opinions toward various aspects of the end-of-life period including physical and psychological needs, autonomy issues, and closure of life affairs. These opinions were assessed by having respondents rate 13 items using a five-category Likert scale. Cancer patients were asked to imagine that they were in the last three months of their life, and then rate how much they agree or disagree with each of the 13 items and to rank them from most to least important. Relatives of cancer patients were given the same task but asked to rate each item according to how they imagine cancer patients would feel about them.

### 2.3. Procedure

The team of researchers approached potential patients and their relatives with verbal and written information regarding the purpose and design of the study. If they were willing to respond to the survey, they were asked to complete the questionnaire on their own. Anonymity was assured, and no incentives were offered. The completed questionnaires were then sent back to the researchers.

### 2.4. Sample size calculation

The sample size calculation was based on the primary objectives of this study. The proportion of cancer patients who visited the oncology clinic and day chemotherapy in 2017 was 12% from the overall patients who attended the outpatient clinic of Srinagarind Hospital, Khon Kaen University. For estimating the infinite population proportion, the estimation of a population proportion with a specified absolute precision formula was used (Wayne, 1995), where proportion ( $p$ ) = 0.12, error ( $d$ ) = 0.05, alpha ( $\alpha$ ) = 0.05,  $Z = 0.975$ , the required sample size was at least 163 for each arm (patients and relatives of patients). One-hundred eighty participants from each arm were then collected which were feasible to conduct in clinical practice.

### 2.5. Statistical analysis

Demographic data were analyzed using descriptive statistics and presented as percentage, mean, and standard deviation. If the distribution of these data did not conform to normal distribution, medians and inter-quartile ranges were used instead. Cancer patients wishes for their own end-of-life care and their relatives' expectations were compared using McNemar's test analysis. Stepwise backward multiple regression was used to analyze the factors associated cancer patients' preferences regarding home death. P-values <0.05 were considered to indicate statistically significant differences. Adjusted ORs and their 95% CIs were reported to indicate the strength of association. All data analysis was carried out using STATA version 10.0 (StataCorp, College Station, Texas).

### 2.6. Ethical considerations

This study was approved by the Khon Kaen University Ethics

Committee (reference number HE 601309). The committee considered this study as an exempt category and has approved for the final protocol where participants were informed of the study, but written consents were not required based on the criteria laid out in a university announcement (no. 1877/2559) regarding survey procedures.

### 3. Results

#### 3.1. Participant characteristics

Of the 185 pairs of cancer patients and their relatives who were approached for inclusion in the study, 180 agreed to participate. Baseline data of participants are shown in Table 1. Most participants in both groups were middle aged. Almost all participants were Buddhist. The top three cancers were colorectal cancer (19.5%), followed by head and neck cancer (15%) and lung cancer (14.5%). The median duration of cancer diagnosis was 8 months. Only 20% of patients expressed that they were satisfied with their lives, compared to 94.4% of relatives. Most of the patients were independent with regard to basic activities of daily living.

#### 3.2. The end-of-life preferences of patients and the perceptions of relatives regarding those preferences

The preferences of cancer patients and their relatives' expectations about their wishes at the end-of-life period are shown in Table 2. The most common statement with which the patients indicated agreement was "I wish to pass away at home" (76.1%), while their relatives most agreed with the statements "They wish to receive the full truth about their illnesses" (72.8%) and "They wish to have their loved ones around when needed" (72.8%). Table 2 shows the comparison of paired patients and their relatives' agreement to questions using McNemar's test. There were three items in which the patients' preferences significantly differed from their relatives' expectations: "They/I do not want to be a physical or psychological burden to their/my family," "They/I want to complete unfinished business, be prepared to die, and say goodbye to family and friends," and "They/I do not want to receive treatments to prolong their/my life when the chances of surviving are slim".

#### 3.3. Factors associated with cancer patients' desire for a home death

According to stepwise regression analysis, being married, more than 6 years of education, shorter duration since cancer diagnosis, having lung cancer, prior experience of hospital admission due to serious illness, and being satisfied in life were independent factors associated with wishing to pass away at home (Table 3).

### 4. Discussion

As the majority of the participants in this study were Buddhist, these results provide particular insight into what constitutes a good death for Buddhists in Thailand. Four domains of a good death were rated as being important (>70% of participants responding that they agreed with those items) in both cancer patients and their relatives including dying in one's preferred place, having a good relationship with one's family, physical and psychological comfort, and having a good relationship with the medical staff. A review of the literature regarding the perception of good death domains in various countries (Hong et al., 2018; Kastbom et al., 2017; Miyashita et al., 2007; Yun et al., 2018) reveals that having a good relationship with one's family and the medical staff is the commonly domain concerned, while place of death is rated as being more important by patients in Asian countries. The findings in our study are only similar to those from surveys conducted in Western countries in 2 domains: physical and psychological comfort, and having a good relationship with the medical staff (Steinhauser et al., 2000). However, unlike in those studies, participants in our study rated preparation for death, life completion, and being respected as an individual as being of low

**Table 1**  
Baseline data of the study populations.

Characteristics	Patients with cancer N = 180	Relatives N = 180
Age (years), median (IQR1,3)	55 (47,63)	42 (35,50)
Gender, n (%)		
Female	67 (37.2)	101 (56.1)
Male	113 (62.8)	79 (43.9)
Religion, n (%)		
Buddhist	179 (99.4)	179 (99.4)
Christian	1 (0.6)	1 (0.6)
Occupation, n (%)		
None	47 (26.1)	9 (5)
Government officer/state enterprise	23 (12.8)	27 (15)
Agriculturalist	67 (37.2)	67 (37.2)
Self-employed, general work	35 (19.4)	74 (41.1)
Monk	2 (1.1)	2 (1.1)
Student	6 (3.4)	1 (0.6)
Marital status (%)		
Single	22 (12.2)	25 (13.9)
Married	152 (84.5)	146 (81.1)
Divorced/separated	6 (3.3)	9 (5)
Years of formal educational		
≤6 years	81 (45)	139 (77.2)
>6 years	99 (55)	41 (22.8)
Family income per month (baht)		
<10000	114 (63.3)	86 (57.8)
10000–20000	22 (24.5)	60 (33.3)
20001–30000	15 (8.3)	22 (12.2)
>30000	7 (3.9)	12 (6.7)
Family size (person), n (%)		
Live alone	5 (2.8)	5 (2.8)
2	38 (21.1)	28 (15.5)
3–5	102 (56.6)	115 (63.9)
6–8	34 (18.9)	30 (16.7)
>8	1 (0.6)	2 (1.1)
Type of cancer, n (%)		
Colon	35 (19.5)	
Head and neck	27 (15)	
Lung	26 (14.5)	
Hematologic malignancy	22 (12.2)	
Hepatobiliary	21 (11.7)	
Sarcoma	11 (6.1)	
Esophagus	7 (3.9)	
Stomach	6 (3.3)	
Breast	6 (3.3)	
Bladder	6 (3.3)	
Others	13 (7.2)	
Duration after cancer diagnosis (months), median (IQR1,3)	8 (5,14)	
Comorbidities, n (%)		
HT	29 (16.1)	
DM	14 (7.8)	
Chronic liver disease	6 (3.3)	
COPD/asthma	4 (2.2)	
IHD	2 (1.1)	
CVA	2 (1.1)	
CRF	2 (1.1)	
HIV infection	2 (1.1)	
History of hospital admission, n (%)	148 (82.2)	49 (27.2)
In good health, n (%)	118 (65.6)	168 (93.3)
Life satisfaction, n (%)	152 (20)	170 (94.4)
Prior experience seeing someone die, n (%)	36 (77.1)	21 (11.7)
Prior experience caring for someone at the end-of-life, n (%)	12 (6.7)	13 (7.2)
Self-rated bADLs		
Eating	172 (95.6)	
Dressing	178 (98.9)	
Bathing	172 (95.6)	
Double continence	171 (95)	
Walking	173 (96.1)	

**Note:** IQR; inter-quartile range, Other cancers included cancer of brain, pancreas, ovary, unknown origin, skin, neuroendocrine and thymoma, DM; diabetes mellitus, HT; hypertension, COPD; chronic obstructive pulmonary disease, IHD; ischemic heart disease, CVA; cerebrovascular accident, CRF; chronic renal failure, HIV; Human Immunodeficiency Virus, bADL; basic activities of daily living.

**Table 2**

Comparison of the preferences and expectations of paired cancer patients and their relatives, respectively, regarding palliative care during the end-of-life period using a McNemar's test.

Statements	Patient's wishes	Relative's expectation about patient's wishes	odds ratio (95% CI)	p-value
1. They/I wish to receive the full truth about their/my illnesses	124 (68.9%)	131 (72.8%)	0.8 (0.4,1.4)	0.35
2. They/I want their/my family to know the full truth about their illnesses	110 (61.1%)	107 (59.4%)	1.1 (0.7,1.8)	0.71
3. They/I wish to be involved in decisions about their/my treatment	127 (70.6%)	126 (70%)	1.0 (0.6,1.9)	0.89
4. They/I want to name a surrogate in advance to make healthcare decisions for when they are/ I am not capable of doing so	113 (62.8%)	114 (63.3%)	1.0 (0.6,1.6)	0.91
5. They/I want relief from uncomfortable symptoms such as pain and shortness of breath	129 (71.7%)	128 (71.1%)	1.0 (0.6,1.7)	0.90
6. They/I wish to be respected, not being treated only for diseases but also having their/my spiritual needs met	115 (63.9%)	122 (67.8%)	0.8 (0.5,1.3)	0.41
7. They/I wish to have their/my loved ones around when needed	130 (72.2%)	131 (72.8%)	1.0 (0.6,1.7)	0.90
8. They/I do not want to be a physical or psychological burden to their/my family	117 (65%)	87 (48.3%)	2.1 (1.3,3.4)	0.001*
9.They/I want to complete unfinished business, be prepared to die, and say goodbye to family and friends	123 (68.3%)	100 (55.6%)	1.7 (1.1,2.8)	0.01*
10. They/I do not want to receive treatments to prolong their/my life when the chances of surviving are slim	111 (61.7%)	88 (48.9%)	1.9 (1.1,3.1)	0.001*
11. They/I wish to have religious rituals conducted at the end of their/my life	107 (59.4%)	101 (56.1%)	1.2 (0.7,2.0)	0.46
12. They/I wish to be mentally aware in the last hour of their/my life	98 (54.4%)	100 (55.6%)	0.9 (0.6,1.6)	0.80
13. They/I wish to pass away at home	137 (76.1%)	128 (71.1%)	1.3 (0.8,2.3)	0.25

Note: \* p-value was significant at p < 0.05.

importance (Steinhauser et al., 2000). In addition, while a large number of respondents in those studies placed importance on religious and spiritual comfort and awareness of death (being mentally aware in the last hour of their life), less than 60% of our respondents did (Steinhauser et al., 2000).

In one study conducted in the US, the majority patients emphasized “being at peace with God” and “prayer” (Steinhauser et al., 2000). Interestingly, both cancer patients and their relatives in our study rated religious and spiritual comfort as being of low importance, despite self-identifying as Buddhist. A possible explanation is that the statement on the questionnaire regarding this domain emphasized religious rituals being conducted at the end of their life, while patients may be more concerned with the spiritual comfort that faith provides them than the conducting of overt rituals (Miyashita et al., 2007). A previous report also showed that having religious beliefs and greater intrinsic religious orientation was associated with a greater level of acceptance of death while engaging in religious practices was not (Hong et al., 2018). This suggests that a modified version of the concept of a good death in this population. Being mentally aware in the last hour of their life is another domain that garnered a low response. This finding may represent traditional views of death found in various Asian countries. In Japan, for example, a good death is traditionally characterized as being able to live life as usual in one's end-of-life period without the feeling of facing impending death (Miyashita et al., 2007). In China and Korea, the topics of death and dying are topics that are usually not considered suitable for open discussion (Chan and Pang, 2011) (Hong et al., 2018). However, a survey of patients' wishes for their end-of-life period using a similar questionnaire revealed that 82% of elderly Thai patients with chronic illnesses who attended an outpatient clinic agreed that awareness of death was one component of a good death (Srinonprasert et al., 2014). The discrepancy between the findings of that study and ours may be due to differences in sampling characteristics. People who are older have been shown to exhibit less attentional avoidance of threat than those who are younger (De Raedt et al., 2013), and the cancer patients in our study were younger than those in the previous study. This may be the reason the patients preferred to be unaware of their impending death during the terminal period of life.

The findings from this study showed that relatives of cancer patients – for the most part – accurately perceived what the patients' wishes were for their end-of-life period (10 of 13 items). However, there were 3 items about which the relatives underestimated patients' preferences: “not being a burden to others,” “preparation for death,” and “physical and

psychological comfort” (items 8–10). “Not being a burden to others” showed the highest adjusted odds ratio, which is consistent with the distinctive characteristics of a good death that are commonly described in Asian countries. Asian cultures tend to place more importance on one's relationships with others than on autonomy (Gisquet et al., 2016; Miyashita et al., 2007). Buddhist teachings also emphasize that one must take care of their ailing family members, particular one's parents. A study regarding perception of Thai caregivers of older adults with advanced cancer also revealed no burden in the majority of them (63%), followed by mild burden (31%) (Chindapasirt et al., 2014). These factors may explain this discrepancy between the two groups.

Factors influencing the preference of home death were being married, having more than 6 years of education, having lung cancer, shorter duration after cancer diagnosis, history of hospital admission, and life

**Table 3**

Factors associated with cancer patients answering that they would prefer to pass away at home using stepwise regression analysis.

Factors	Adjusted OR	(95% CI)	p-value
Marital status			
Single	1	-	-
Married	6.4	(1.1,36.5)	0.04*
Divorce/separated	12.2	(0.3,464.4)	0.18
Years of formal educational			
≤6 years	1	-	-
>6 years	6.5	(1.8,23.7)	0.005*
Type of cancer			
Colon	1	-	-
Lung	12	(1.2,118.7)	0.03*
Hepatobiliary	5.6	(0.5,69.7)	0.18
Others	0.3	(0.04,2.3)	0.24
Duration after cancer diagnosis (months)	0.9	(0.93,0.99)	0.02*
Comorbidities			
Chronic liver disease	0.1	(0.01,1.6)	0.09
COPD/asthma	0.02	(0.0001,1.01)	0.05
HIV infection	0.1		0.16
History of hospital admission	5.7	(1.5,21.2)	0.01*
Life satisfaction	17.6	(2.9,104.9)	0.002*
Prior experience caring for someone at the end-of-life	4.8	(0.4,51.1)	0.2

\*: p-value < 0.05, OR; odds ratio, CI; confidence interval, COPD; chronic obstructive pulmonary disease, all variables were adjusted for age, gender, religion, self-rated health status, family income per month, family size, comorbid diseases of diabetes mellitus, hypertension, ischemic heart disease, cerebrovascular accident, chronic renal failure, self-rated basic activities of daily living, and prior experience seeing someone die.



satisfaction. For being married, the finding is consistent with those of a previous study of cancer patients in 14 countries across 4 continents (Cohen et al., 2015). Being married implies that terminally-ill patients are more likely to have social support at home. It is compatible to the traditional beliefs of Thai people which are shaped up by their Buddhist faith that home death is associated with a better rebirth and better receiving care from family, neighbors and friends than death in the hospitals (S. Stonington, 2011; S. D. Stonington, 2012). For more than 6 years of education, previous studies in France and Germany also found that having more than 6 years of education was associated with preferring to die at home (Escobar Pinzón et al., 2011; Gisquet et al., 2016). Patients with higher education levels tend to have more cognitive resources, which impacts their attitudes and beliefs about place of death. However, some studies have reported contrarily (Costantini et al., 1993; Gisquet et al., 2016), the influence of traditional beliefs might be the reason for preferring a home death (S. Stonington, 2011; S. D. Stonington, 2012).

Patients with lung cancer preferred to die at home to a significantly greater extent than those with colonic cancer according to our findings. The poorer prognosis of lung cancer and faster progression of symptoms might cause the patients to more clearly perceive the advancing of their illness, these reasons might allow them to earlier prepare for their own needs. Shorter duration after cancer diagnosis is another factor that was related to preference of a home death in our study. When patients are diagnosed with cancer, it is natural for them to feel loss after getting bad news. At first, the thought of living with cancer and undergoing treatment can be devastating, as the course of the disease is generally predictable and patients are aware of its incurability (Gomes et al., 2015). This reason might lead them choose to die at home as conventional Buddhist beliefs home as a sacred and contains familiar objects (Stonington, 2011, 2012). If a significant amount of time has passed since a patient's cancer diagnosis, they might have more hope and confidence, be more familiar with physicians, more aggressive treatment are often proceed until late in the disease course. Furthermore, cultural differences might be an issue. Disclosure of cancer diagnosis and prognosis might be delayed in Asian countries, which means that discussion regarding the patient's wishes during their end-of-life period (including place of death) may also be delayed (Gomes et al., 2018).

Experience of hospital admission due to serious illness was identified as one of the significant factors, previous research has also shown that negative experiences in the hospital, including restriction of autonomy or lack of participation in treatment decisions, unsatisfactory quality of care, or involuntary treatment, may cause patients to prefer to die at home (Katsakou and Priebe, 2007). Self-rated life satisfaction was another associated factor. Higher life satisfaction has been shown to be related to lower anxiety about death and a greater sense of spiritual well-being. Home death, thus, might be part of patients meeting their spiritual needs (Narang et al., 2015; Shirkavand et al., 2018).

The findings of this study indicated that understanding ethno-cultural issues is crucial, since they are likely to inform the approach that is taken to palliative care. For example, in Thai cancer patients, healthcare providers should be aware of concepts that relate to a good death beyond mere symptom control including place of death and the relationships among the patient their family and the medical staff. Resolving any discrepancies between the preferences of cancer patients regarding end-of-life care and the perceptions of their relatives and healthcare providers would assist in care plan as this discrepancy impact the aggressiveness management at the end-of-life time (Ishikawa et al., 2013; Wright et al., 2016). Additionally, we found that the majority of cancer patients preferred to die at home, which was consistent with their relatives' perceptions and with the results of previous reports (Bannon et al., 2018; Gomes et al., 2015; Woodman et al., 2016) improving palliative care home services in the contexts of specific culture could affect the preference of patients. Implementing advance care planning, however, is not an easy task, even in Western countries (Endacott et al., 2016; Srinonprasert et al., 2014). It is particularly important for healthcare providers to

implement this in Asian countries, where open discussion about death can be delicate or unpleasant (Ho et al., 2013; Srinonprasert et al., 2014; Tenzek and Depner, 2017). This could help family members better comprehend cancer patients' wishes and help them in achieving the goal of a good death.

To our knowledge, this is the first study conducted in Asia to directly compare the opinions of cancer patients and their relatives. However, there were some limitations. First, we did not collect information regarding the duration that the relatives had been taking care of the patients nor their specific relationships to the patients. Thus, the relatives might not have been living with patient or assisting them in their activities of daily living, and the relatives' expectations about the patients' wishes might be diverse. Second, the questionnaire was developed to be used in Buddhist patients and may not be generalizable to those of other faiths or who are not religious. Finally, although the regional/cultural background of participants could have affected their preferences, this aspect was not examined. Further studies are required in which steps are taken to mitigate these limitations. This could include examining end-of-life care from Muslim and Christian perspectives and those of patients in countries other than Thailand.

In conclusion, Thai cancer patients and their relatives indicated that they found four domains of a good death to be important including dying in their preferred place, having a good relationship with their families, physical and psychological comfort, and having a good relationship with the medical staff. However, they were less concerned with religious and spiritual comfort (religious rituals being conducted at the end of their life) and awareness of death (being mentally aware in their last hour of life). In general, the preferences of cancer patients and the perceptions of their relatives were comparable. However, their relatives underestimated what patients preferred in three domains: "not being a burden to others," "preparation for death," and "physical and psychological comfort." Marital status, level of education, type of cancer, duration after cancer diagnosis, experience of serious hospital admission, and life satisfaction were associated with the preference of a home death. In view of healthcare providers, it is a challenging issue to help patients and relatives clinically perceive the same way by attempting to discern individual view of a good death.

## Declarations

### Author contribution statement

Jarin Chindaprasirt: Conceived and designed the experiments; Performed the experiments; Contributed materials, analysis tools or data; Wrote the paper.

Nattapat Wongtirawit: Performed the experiments; Contributed materials, analysis tools or data.

Panita Limpawattana: Conceived and designed the experiments; Analyzed and interpreted the data; Contributed materials, analysis tools or data; Wrote the paper.

Varalak Srinonprasert, Manchumad Manjavong, Verajit Chotmongkol, Sriyeng Pairojkul, Kittisak Sawanyawisuth: Conceived and designed the experiments; Wrote the paper.

### Funding statement

This work was supported by the Neuroscience Research and Development Group (Khon Kaen University, Thailand).

### Competing interest statement

The authors declare no conflict of interest.

### Additional information

No additional information is available for this paper.

## Acknowledgements

We would like to thank Dr. Dylan Southard (Research Affairs, Faculty of Medicine, Khon Kaen University, Thailand) for editing the manuscript. The authors also would like to thank the Sleep Apnea Research Group at Khon Kaen University (Khon Kaen, Thailand).

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