

## Original article

# Attitudes toward end-of-life care and advance directives: a prospective survey in a family medicine clinic, Bangkok, Thailand

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**Background:** Advance directives (ADs) have long been legalized and advocated, still few patients complete ADs in Thailand. In our setting, advance directive information will be provided to interested patients and palliative care patients.

**Objectives:** This study examined the attitude toward end-of-life care and ADs, the prevalence of ADs completion and identified the factors associated with advance care planning among patients who attended a family medicine clinic, Faculty of Medicine, Vajira Hospital, Navamindhradhiraj university, Bangkok, Thailand.

**Methods:** A total of 300 subjects completed a self-administered structured questionnaire, including sociodemographic factors, individuals' health status, healthcare experiences, and other factors influencing advance care planning.

**Results:** The overall mean age was  $52.0 \pm 17.7$  years; 71.0% were female. Only 20.0% received information regarding ADs, and 3.0% completed ADs. Surprisingly, more than 70.0% were interested in receiving more information regarding ADs. Adjusting for other variables, acceptance of ADs was significantly associated with the female gender, education level, both secondary school completion and a university degree or higher, and experience in caring for chronically ill relatives.

**Conclusion:** Our findings showed that an extremely low percentage of subjects completed ADs, as most had never heard of them. They were eager to obtain more information and considered it essential knowledge. This knowledge gap could guide policy planners to formulate strategies and implement advance care planning.

**Keywords:** Advance care planning, advance directive, attitudes, end-of-life care.

Death is a natural process, and every human inevitably faces it. Death trajectories have been classified into four categories<sup>(1)</sup>: 1) sudden death, the progression of normal function to death that might be unpredictable; 2) terminal illness, such as metastatic cancer, which can be roughly predicted by survival

rate statistics; 3) fatal organ failure occurring in chronic conditions causing death; and 4) frailty in an older adult, in which their functional ability declines gradually, along with increased disability. Undeniable end-of-life trajectories can occur through a good death or miserable moment.<sup>(2, 3)</sup> An associated factor is preparation.<sup>(4)</sup> Preparation for end-of-life could guide family and friends to follow the structure of an advance care plan.<sup>(5 - 9)</sup> An unexpected death or end-of-life care without an advance care plan can cause frustration, depression, anxiety, and arguments among families and loved ones.<sup>(8 - 10)</sup> During the bereavement period, if the patients' values and preferences were unknown, feelings of guilt, depression and desperation can appear

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Received: December 20, 2022

Revised: April 24, 2023

Accepted: May 22, 2023

for those who made the final decision, since the question remains of if the right choice was made.<sup>(11)</sup> In the end-of-life care, the most important factor is a person's autonomy, which may not be maintained due to their mental status and cognitive decline related to the end-of-life process.<sup>(12)</sup>

Advance directive (ADs), a legal document developed to support a person's autonomy, enables a person to express their preferences and values, in case in the future they cannot communicate or decide for themselves.<sup>(13-14)</sup> In Thailand, ADs have been legally recognized and advocated since 2007.<sup>(15,16)</sup> The Act supports the patients' right to make their own will. People with ADs can shape their end-of-life experiences, particularly in a state of unconsciousness. Healthcare personnel can follow their wishes without legal liabilities. The American Family Physician organization suggested that advance care planning should be provided routinely to patients aged 50 - 65 years, and reemphasized its importance when people were diagnosed with chronic conditions or progressive frailty.<sup>(17)</sup> However, there are no existing guidelines to approach ADs in primary care in Thailand and there are no recommendations regarding how the discussion should be undertaken. Moreover, current knowledge of ADs practices in Thailand is limited.<sup>(16)</sup> Since the Health Act was established in 2007, policy planners should provide guidelines to facilitate advance care planning in practice. In our setting, advance directive information is provided to interested patients and palliative care patients due to limited resources. The information such as the patients willing to complete it, the ADs completion, attitudes, and preferences among the patients had previously not been studied.

This study aimed to examine the prevalence of ADs completion, as well as attitudes and preferences among people who attended family medicine clinics. We hope that our study will provide additional information to policy planners and authorities to facilitate the development of guidelines for advance care planning.

## **Materials and methods**

### ***Study design and subjects***

This cross-sectional survey was conducted between November 2020 and November 2021. We used an advertisement to recruit patients and their relatives from the family medicine clinic, Faculty of Medicine, Vajira Hospital, Navamindradhiraj University. Those who wanted to respond contacted the research staff. The inclusion criteria were: 1) those

aged 18 or older; and 2) able to communicate in Thai. The exclusion criterion was those who had mental illnesses that could interfere with cognition or communication. The subjects were given an information sheet and were free to participate at their own discretion. All subjects were introduced to and given information about ADs regarding the definition of ADs, advance care planning, chronically ill, terminal illness, and palliative care. The subjects who are interested and willing to receive further information were given the advance care plan book and appointed with the staff to continue the advance care planning process. The subjects could withdraw at any time without penalty or loss of benefits to which they are normally entitled. They signed a written informed consent form and completed a self-administered questionnaire. The trained research staff would assist those who had read and written difficulties by reading all items and filling in the questionnaire with clear monotone voice without facial expression. The survey was conducted anonymously, and each subject was given a unique research ID code to preserve their identity.

### ***Measurement***

The survey questions were developed and modified by experts and previous study.<sup>(15,16)</sup> The content validation was carried out by three experts. The Item Objective Congruence (IOC) scores reach the level of value 0.95. The survey consisted of eight questions regarding demographics, five yes-no questions regarding previous experience with end-of-life care, and seven items on ADs preferences using a 5-point Likert scale, which took approximately five to ten minutes to complete. Demographic characteristics included gender, age, education, underlying diseases, marital status, monthly income, religion, and self-reported health status. Experiences toward end-of-life care consisted of yes/no questions regarding caregiving experiences and direct experiences of family and friends toward life-threatening conditions, chronic disease, terminal illness, and palliative care; chronic disease is defined as a condition last one year or more and cannot be cured, terminal illness is an incurable condition that is expected to result in the death of the patient, and palliative care describe as comfort care as the patient approach the end of life. The attitudes toward advance care planning included knowing, completing, and willing to receive information regarding ADs, willingness to complete an ADs, and recommending that people

receive ADs information. The completion of ADs was described as legalized in the Thai Health Act as a written advance directive signed with witnesses.

### Sample size and sampling method

The sample size for the survey study was calculated to achieve a level of power ( $\alpha = 0.05$ ,  $d = 0.061$ ) to estimate a finite population proportion formula.<sup>(18)</sup> The sampling frame was obtained from the statistical patient report of the Faculty of Medicine, Vajira Hospital ( $n = 4,081$ ). Based on a previous study, the prevalence of the population willing to complete ADs was 61.0% ( $P = 0.61$ ).<sup>(19)</sup> The required sample size was at least 232, and a nonresponse rate of 20.0% was added. We used convenience sampling and obtained a total sample size of 300.

### Statistical analysis

Statistical analyses were performed using the SPSS software Mac version 22.0; IBM Corp, Armonk USA, NY.  $P < 0.05$  was considered as statistical significance. Demographic data were analyzed using descriptive statistics. Categorical and continuous data were summarized by frequency and proportion, and means and standard deviation (SD), respectively. The associations and intention to complete ADs were analyzed using Chi-squared tests. A univariate regression model was used to demonstrate the factors associated with intention to complete ADs. Subsequently, a multivariate regression model was applied, with potential factors controlled to demonstrate factors associated with preferences toward ADs.

Odds ratios (ORs), adjusted ORs (AORs), and 95% confidence intervals (CIs) were reported to indicate the strength of the association. This study has been approved by the Institutional Review Board, the Faculty of Medicine, Vajira Hospital (COA no. 011/2563, Study code 149/62) and followed the principles of the contemporary revision of the Declaration of Helsinki.

## Results

### Characteristics of the subjects

A total of 300 subjects who attended a family medicine clinic participated in the study between November 2020 and November 2021. All the subjects were Thai. Their mean age was  $52.1 \pm 17.7$  years. Of these, 71.0% were female. The majority had received compulsory education (74.7%), of which 43.0% had completed higher education. The three most common chronic conditions were hypertension (35.3%), dyslipidemia (19.0%), and diabetes mellitus (17.3%). A relatively high proportion of subjects were married (45.7%), while 36.0% were single. The salary range among subjects varied from less than 10,000 to 100,000 Baht per month (approximately 260 to 2,600 USD per month). More than half had an average income of less than 20k baht. Almost all the subjects were Buddhists (96.3%). Regarding their self-perceptions and health status, half rated their health status as good (50.7%) and 34.0% considered their health status to be very good to excellent. Only 15.3% rated their health status as poor to fair.

**Table 1.** Subjects' characteristics.

Characteristics	(n = 300)	Percentage
<b>Gender</b>		
Male	87	29.0
Female	213	71.0
Age (years), mean $\pm$ SD.	$52.1 \pm 17.7$	
<b>Education</b>		
Elementary school	176	25.3
Middle school	59	19.7
Certification/Diploma	36	12.0
Higher graduation	129	43.0
<b>Underlying disease</b>		
Type II Diabetes	52	17.3
Essential hypertension	106	35.3
Dyslipidemia	57	19.0
Cardiovascular disease	18	6.0
Chronic kidney disease	8	2.7
Cerebrovascular disease	5	1.7
Others	38	12.7

**Table 1.** (Cont.) Subjects' characteristics.

Characteristics	(n = 300)	Percentage
<b>Marital status</b>		
Single	108	36.0
Married	137	45.7
Divorced	16	5.3
Widowed	39	13.0
<b>Monthly income</b>		
< 10,000 Baht	75	25.0
10,000 - 20,000 Baht	115	38.3
20,000 - 50,000 Baht	84	28.0
50,000 - 100,000 Baht	18	6.0
> 100,000 Baht	8	2.7
<b>Religious</b>		
Buddhist	289	96.3
Christian	5	1.7
Islam	5	1.7
Sikh	1	0.3
<b>Self-reported health status</b>		
Poor	21	7.0
Fair	25	8.3
Good	152	50.7
Very good	75	25.0
Excellent	27	9.0

**End-of-life experiences**

The experiences of healthcare toward end-of-life care are shown in Table 2. Overall, 28.7% of the subjects witnessed a family member receiving resuscitation, such as cardiopulmonary resuscitation or endotracheal tube insertion. Regarding palliative care experiences, 43.3% experienced a family member receiving palliative care, nearly half (40.3%) provided care for a palliative care patient, 40.0% had experience in providing care for a patient who was chronically ill, and 36.3% provided care for a patient who was terminally ill.

**Prevalence and perceptions toward ADs**

Only one-fifth (20.0%) of the subjects had heard of ADs, and a relatively high proportion had received information regarding it from family members and friends (38.3%). Only 3.0% had completed ADs, while most (80.0%) had never heard of it. Nonetheless, after being informed of ADs, 70.3% were willing to receive more information. Surprisingly, after they received basic information regarding ADs, 68.0% were willing to process an advance care plan. Overall, 88.4% agreed that people should receive information regarding ADs. In addition, the majority (60.3%) agreed that everyone in good health with full decision-making capacity should receive information regarding ADs, regardless of age.

**Table 2.** End-of-life experiences.

Variables	(n = 300)	Percentage
Experiences of a family member receiving advanced life resuscitation, for example, cardiopulmonary resuscitation or endotracheal tube insertion	86	28.7
Experiences of a family member receiving palliative care	130	43.3
Experiences in providing care for a patient who was chronically ill	120	40.0
Experiences in providing care for a patient with a terminal illness	109	36.3
Experiences in providing care for a palliative patient	121	40.3

**Table 3.** Prevalence and perceptions toward ADs.

Variables	(n = 300)	Percentage
<b>Ever heard of advances directives</b>		
No	240	80.0
Yes	60	20.0
<b>Source (n = 60)</b>		
Family and friends	23	38.3
Media for example, radio and television	11	18.3
Press, for example, journal, newspaper	18	30.0
Surfing internet	11	18.3
Others	13	21.7
Had made advance directives	9	3.0
Willingness to receive information regarding advance directives	211	70.3
Willingness to complete advance directives	204	68.0
<b>Level of agreement that people should have received information on advance directives</b>		
Strongly disagree	5	1.7
Disagree	8	2.7
Neither agree nor disagree	22	7.3
Agree	122	40.7
Strongly agree	143	47.7
<b>When should people receive information regarding advance directives</b>		
Routine patient visit, patients aged over 60 years	65	21.7
Anytime at all age	181	60.3
Diagnosis of progressive chronic diseases	55	18.3
In healthy status	126	42.0
Others	17	5.7

Three factors were associated with the intention to complete it. First, the proportion of female subjects who intended to complete ADs (75.0%) was significantly higher ( $P = 0.026$ ) compared to that of male subjects (25.0%). Second, subjects who were experienced in providing care for patients who were

terminally ill were significantly more likely to express their intent to complete ADs (45.6% vs. 28.1%,  $P = 0.004$ ). Third, subjects who received ADs information through various media, such as journals and newspapers, were significantly more likely to show an intention to complete ADs ( $P = 0.013$ ).

**Table 4.** Factors associated with intention to complete ADs.

Factor	Intention to complete ADs				P - value
	Yes		No		
	(n = 204)		(n = 96)		
	N	%	N	%	
<b>Gender</b>					
Male	51	25.0	36	37.5	0.026
Female	153	75.0	60	62.5	
Age (years), mean ± SD.	52.9 ± 17.1		50.3 ± 19.1		0.242
<b>Education</b>					
Elementary school	46	22.5	30	31.3	0.069
Middle school	48	23.5	11	11.5	
Certification/Diploma	23	11.3	13	13.5	
Higher education	87	42.6	42	43.8	
<b>Marital status</b>					
Single	66	32.4	42	43.8	0.156
Married	99	48.5	38	39.6	
Widowed/divorced	39	19.1	16	16.7	
<b>Monthly income</b>					
< 10,000 Baht	51	25.0	24	25.0	0.658
10,000 - 20,000 Baht	75	36.8	40	41.7	
> 20,000 Baht	78	38.2	32	33.3	

**Table 4.** (Cont.) Factors associated with intention to complete ADs.

Factor	Intention to complete ADs				P - value
	Yes (n = 204)		No (n = 96)		
	N	%	N	%	
<b>Religious</b>					
Buddhist	197	96.6	92	95.8	0.749
Others	7	3.4	4	4.2	
<b>Underlying disease</b>					
No	77	37.7	47	49.0	0.066
Yes	127	62.3	49	51.0	
<b>Self-reported health</b>					
Satisfaction					
Poor	27	13.2	19	19.8	0.238
Average	109	53.4	43	44.8	
Good	68	33.3	34	35.4	
<b>Experiences of a family member receiving advanced life support, for example, cardiopulmonary resuscitation or endotracheal tube insertion</b>					
No	140	68.6	74	77.1	0.131
Yes	64	31.4	22	22.9	
<b>Experiences of a family member received palliative care</b>					
No	112	54.9	58	60.4	0.369
Yes	92	45.1	38	39.6	
<b>Experiences in providing care for a patient who was chronically ill</b>					
No	111	54.4	69	71.9	0.004
Yes	93	45.6	27	28.1	
<b>Experiences in providing care for a patient who was terminally ill</b>					
No	124	60.8	67	69.8	0.130
Yes	80	39.2	29	30.2	
<b>Experiences in providing care for a palliative patient</b>					
No	117	57.4	62	64.6	0.234
Yes	87	42.6	34	35.4	
<b>Ever heard of advance directives</b>					
No	159	77.9	81	84.4	0.194
Yes	45	22.1	15	15.6	
<b>Sources</b>					
Family and friends	14	6.9	9	9.4	0.446
Media, for example, radio, television	9	4.4	2	2.1	0.512
Press, for example, journal, newspaper	17	8.3	1	1.0	0.013
Surfing internet	8	3.9	3	3.1	1.000
Others	9	4.4	4	4.2	1.000

**Note:** OR, Odds Ratio; CI, Confidence Interval.

Table 5 illustrates the results of the regression analysis. The univariate analysis showed that variables significantly associated with subjects' intention to complete ADs were the female gender (OR = 1.80, 95% CI 1.07 - 3.03), had completed middle school (OR = 2.85, 95% CI 1.28 - 6.34), experience in providing care for a patient who was chronically ill (OR = 2.14, 95% CI 1.27 - 3.61), and prior information regarding ADs from the media (OR = 8.64, 95% CI 1.13 - 65.88). Subsequently, the factors associated

with the acceptance of ADs in the univariate analysis ( $P < 0.100$ ) were included in the multivariate analysis. Controlling for all other variables in the stepwise regression model, ADs acceptance was significantly associated with the female gender (AOR = 2.07, 95% CI 1.16 - 3.69), had completed middle school (AOR = 4.35, 95% CI 1.81 - 10.46), and had experience in providing care for a patient who was chronically ill (AOR = 2.13, 95% CI 1.22 - 3.73).

**Table 5.** Univariate and multivariate regression analyses of factors predicting the intention to complete ADs using stepwise regression analysis.

Factor	Univariable analysis			Multivariable analysis		
	OR <sup>1</sup>	95% CI	P-value	OR <sub>adj</sub> <sup>2</sup>	95% CI	P-value
<b>Gender</b>						
Male	1.00	Reference		1.00	Reference	
Female	1.80	(1.07-3.03)	0.027	2.07	(1.16-3.69)	0.014
Age (years)	1.01	(0.99-1.02)	0.241			
<b>Education</b>						
Elementary school	1.00	Reference		1.00	Reference	
Middle school	2.85	(1.28-6.34)	0.010	4.35	(1.81-10.46)	0.001
Certification/Diploma	1.15	(0.51-2.62)	0.733	2.05		
Higher graduation	1.35	(0.75-2.44)	0.317	2.19		
<b>Marital status</b>						
Single	1.00	Reference		1.00	Reference	
Married	1.66	(0.97-2.84)	0.066	1.53	(0.84-2.81)	0.166
Divorced/Widowed	1.55	(0.77-3.12)	0.218	1.38	(0.58-3.29)	0.464
<b>Monthly income</b>						
< 10,000 Baht	1.00	Reference				
10,000 - 20,000 Baht	0.88	(0.48-1.64)	0.692			
> 20,000 Baht	1.15	(0.61-2.17)	0.673			
<b>Religious</b>						
Buddhist	1.00	Reference				
Others	0.82	(0.23-2.86)	0.752			
<b>Underlying disease</b>						
No	1.00	Reference	1.00	Reference		
Yes	1.58	(0.97-2.58)	0.067	1.37	(0.75-2.49)	0.310
<b>Self-reported health status</b>						
Bad	1.00	Reference	1.00	Reference		
Average	1.78	(0.90-3.54)	0.098	1.60	(0.77-3.31)	0.209
Good	1.41	(0.69-2.88)	0.350	1.41	(0.65-3.07)	0.390
<b>Experiences of a family member receiving advanced life support, for example, cardiopulmonary resuscitation or endotracheal tube insertion</b>						
No	1.00	Reference				
Yes	1.54	(0.88-2.64)	0.132			
<b>Experiences of a family member receiving palliative care</b>						
No	1.00	Reference				
Yes	1.25	(0.77-2.05)	0.369			
<b>Experiences in providing care for a patient who was chronically ill</b>						
No	1.00	Reference		1.00	Reference	
Yes	2.14	(1.27-3.61)	0.004	2.13	(1.22-3.73)	0.008
<b>Experiences in providing care for a patient who was terminally ill</b>						
No	1.00	Reference				
Yes	1.49	(0.89-2.50)	0.131			
<b>Experiences in providing care for a palliative patient</b>						
No	1.00	Reference				
Yes	1.36	(0.82-2.24)	0.234			
<b>Ever heard of advance directives</b>						
No	1.00	Reference				
Yes	1.53	(0.80-2.91)	0.196			

## Discussion

Our study demonstrated that the prevalence of ADs completion was extremely low (3.0%). The results imply that even though ADs have been legally recognized in Thailand since 2007, most people may not be aware of them. Our findings were consistent with those of a population-based telephone survey conducted in Hong Kong, which demonstrated that only 0.5% of the subjects had completed ADs.<sup>(20)</sup> Similarly, community-based surveys from Portugal and Australia also showed a low ADs completion prevalence rate of 2.0 - 6.0%.<sup>(21, 22)</sup> In contrast, a study from Canada showed a high prevalence at 19.7% among the subjects who attended primary care clinics<sup>(23)</sup>, and 43.8% had previously discussed an AD. Similarly, other community-based surveys conducted in the US and Canada also showed a relatively high prevalence of written AD completion at 20 - 26.3%.<sup>(24, 25)</sup> This inconsistency might reflect a better established policy, awareness of end-of-life care, and overall health literacy among the US and Canadian populations. Interestingly, our results showed that 80.0% of the subjects had never heard of ADs. In comparison, over 70.0% were willing to receive information regarding the same, and over 60.3% considered that the concept of ADs should be discussed with individuals of all age groups. Moreover, 68.0% expressed an interest in completing an AD. This finding emphasized the gap in knowledge among the subjects. ADs concepts should be promoted to the population, especially to those who attended family medicine clinics, who had positive attitudes toward advance care planning, and were willing to receive the information. This was also consistent with a study conducted in Italy<sup>(26)</sup>, which revealed that 88.0% of the subjects considered ADs as a very important issue, and 75.0% had a positive attitude toward creating an AD. Similarly, another study from Wuhan, China showed that almost all the subjects (86.6%) had positive attitudes toward receiving information regarding ADs and might create one<sup>(27)</sup>, after they learnt more regarding the concept. This highlights the importance of shaping ADs discussions through a patient's views and values, and that most people have a positive attitude toward advance care planning. In the multivariable regression analysis, our study revealed three factors that were significantly associated with the intention to complete ADs: 1) gender; 2) level of education; and 3) previous experience in providing care for patient who was

chronically ill. First, the female gender was significantly associated with a higher degree of intention to complete an AD. This finding was consistent with those of other international studies from Australia<sup>(22)</sup>, Denmark<sup>(28)</sup>, and the Netherlands.<sup>(29)</sup> However, some other studies found no association.<sup>(20, 30)</sup>

Second, our findings illustrated that level of education was associated with the intention to complete ADs. Compared to subjects who completed only elementary school, those whose highest education level was middle school, were four times more likely to express an intention to complete ADs. Furthermore, those with high school education or higher were twice as likely. Although the concepts of ADs might not have been discussed in grade school, those with higher levels of education might have better overall health literacy. Thus, highly educated people may be more aware of their rights and concepts of ADs. This finding was consistent with those of other international studies<sup>(22, 27, 31)</sup>, which indicated that a higher level of education was a strong predictor of ADs completion.

Lastly, subjects with experience in providing care for a patient who was chronically ill were twice as likely to express an intention to complete ADs. This finding supported the concept of ADs as an expression of patients' autonomy, where in the end-of-life process, when they did not have the ability to decide for themselves. Subjects with experience in providing care for a patient who was chronically ill, with an end-of-life, were expected to observe the progression of illness. Without ADs, caring for patients who are terminally ill can involve frustration, confusion, and anxiety.<sup>(2)</sup> These experiences demonstrate the benefits of ADs in facilitating care consistent with a patient's values and preferences, even in their terminal stage to maintain their autonomy until their death. Those with experience in caring for a relative who was terminally ill may appreciate the value of ADs. This was similar to a finding from a study in Korea<sup>(31)</sup>, which demonstrated that death-related experience was one of the strongest factors that influenced discussions regarding ADs. These findings could influence our educational methods to better promote the concepts of ADs. For example, a video clip demonstrating what might happen if patients who are chronically or terminally ill become incapacitated with and without an ADs. Video clip can also capture the experiences of death-related situations, which might better inform people regarding the value of ADs.

The major strength of our study was that we targeted primary care patients of all ages who attended family medicine clinics, which is often the first point of access to the healthcare system in Thailand. However, our study had some limitations.

Our study was a cross-sectional study conducted at a single clinic; it could not represent the general population, which might introduce selection bias. The data present unequal gender distribution since our recruitment was convenience sampling. Further studies should be conducted with a longitudinal qualitative design in multiple centers to provide detailed information or causal effects as well as to improve generalizability.

### Conclusions

The prevalence of completing ADs was extremely low among those who attended family medicine clinics. However, almost all the subjects after being introduced to ADs were willing to receive information regarding advance care planning. Our study identified factors related to the intention to complete ADs such as a higher level of education and experience in providing care for a chronically ill patient. Particularly, we recommend that there are opportunities to advocate advance care planning for patients of all ages which could be included information about chronically ill patients to illustrate the process of care. Family medicine clinic providers could be the primary source of information to promote advance care planning for patients. Furthermore, policy planners and authorities should formulate proactive strategies to improve the knowledge of ADs among the general population.

### Acknowledgements

The researchers would like to express their gratitude to Boonphiphop Boonpheng for their invaluable contribution in the editing and reviewing this manuscript. We also thank Mr. Anucha Kamsom for his statistical analysis. The present study was granted from Navamindradhiraj University Research Fund.

### Conflicts of interest

The authors have no competing interests to declare. This study was supported by a grant from the Navamindradhiraj University Research Fund. The funders had no role in the study design, data collection and analysis, decision to publish, or manuscript preparation.

### Data sharing statement

All data are presented in the published article, and further details are available from the corresponding author upon reasonable request.

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