

## นิพนธ์ต้นฉบับ

# การเปรียบเทียบองค์ความรู้ ทักษะ และ การปฏิบัติในการทำแผนดูแลล่วงหน้าของบุคลากรทางการแพทย์ที่ดูแลระดับประคอง และบุคลากรโรคไต ที่ผ่านการอบรมการวางแผนดูแลล่วงหน้าใน 12 เขตบริการสุขภาพของประเทศไทย

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### บทคัดย่อ

**ที่มา:** การวางแผนการดูแลล่วงหน้า (advance care planning, ACP) คือกระบวนการสนับสนุนผู้ป่วยและครอบครัวให้เข้าใจ และเลือกแผนการรักษาในอนาคตให้สอดคล้องกับเป้าหมายและความต้องการ องค์ความรู้ ทักษะ และ การฝึกอบรมเป็นสิ่งสำคัญในการทำ ACP ผู้แต่งต้องการประเมินองค์ความรู้ ทักษะ และ การปฏิบัติ ต่อ ACP ของบุคลากรระดับประคอง (palliative care, PC) และโรคไตวายเรื้อรัง ก่อนและหลังการอบรม modified Serious illness Conversation Guide (mSICG)

**แบบวิจัย:** วิจัยกึ่งทดลองทดสอบวัดผลก่อนหลัง (pre-posttest quasi-experimental design)

**วัตถุประสงค์และวิธีการ:** การศึกษาทำใน 12 เขตสุขภาพทั่วประเทศ วัดคะแนน KAP ก่อนและหลังการอบรมทันที การอบรมประกอบด้วย การบรรยาย ACP การคิดสะท้อนจากวิดีโอ และการปฏิบัติบทบาทสมมติ

**ผลการศึกษา:** มีผู้เข้าร่วม 483 ราย ร้อยละ 50 เป็นพยาบาล PC ร้อยละ 30 เป็นพยาบาลโรคไต ร้อยละ 10.8 เป็นแพทย์ PC และร้อยละ 2.5 เป็นแพทย์โรคไต องค์ความรู้และทักษะของแต่ละวิชาชีพอยู่ในระดับใกล้เคียงกัน คะแนนการปฏิบัติบุคลากร PC สูงกว่าบุคลากรโรคไต ภายหลังจากอบรม องค์ความรู้ของพยาบาลโรคไต ทักษะพยาบาลโรคไต และ PC สูงขึ้นอย่างมีนัยสำคัญ  $p < 0.001$  องค์ความรู้และทักษะของแพทย์ PC สูงขึ้นอย่างไม่มีนัยสำคัญ

**สรุป:** KAP ของบุคลากร PC สูงกว่าบุคลากรโรคไต องค์ความรู้และทักษะพัฒนาได้จากการอบรม mSICG-ACP เป็นหนึ่งในการอบรม ACP ที่มีประสิทธิภาพและควรขยายผลในบุคลากรโรคไตและโรครุนแรงอื่น ๆ

**คำสำคัญ:** แผนดูแลล่วงหน้า องค์ความรู้ ทักษะ

## ORIGINAL ARTICLE

# Comparing Knowledge, Attitude, and Practice Toward Advanced Care Planning Among Palliative and Renal Healthcare Professionals After Attending Advanced Care Planning Training Program: 12 Health Sectors in Thailand

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**ABSTRACT**

**Background:** Advance care planning (ACP) supports patients and families in understanding and sharing their goals and preferences regarding future medical care. Relevant knowledge, attitude, and training are essential to conduct and adhere to ACP, and a modified Serious Illness Conversation Guide (mSICG) ACP workshop was conducted to train health providers. Results were evaluated to compare knowledge, attitude, and practice (KAP) toward ACP in palliative care (PC) and chronic kidney disease (CKD) providers before and after the training.

**Design:** Pre-posttest quasi-experimental design

**Methods:** The study was conducted all over 12 health sectors in Thailand, with pretest and posttest KAP assessed before and after the mSICG ACP workshop immediately which included an ACP lecture, VDO feedback, and role-play exercises.

**Results:** Out of the 483 participants, 453 were female and 49% were 46-60 years old. Half of the participants were PC nurses, 30% were CKD nurses, 10.8% were PC doctors, and 2.5% were CKD doctors. The knowledge and attitude scores of each discipline were similar. The PC team had higher practice scores than the CKD team. After the mSICG training, the knowledge and attitude of both PC and CKD nurses significantly improved by  $p < 0.001$ , while the knowledge and attitude of PC doctors were higher but not significantly.

**Conclusions:** The KAP of the Thai PC team was higher than the CKD team. The knowledge and attitude scores were higher after the training. The mSICG-ACP workshop was effective as an ACP training program and should be implemented for CKD and other advanced disease care providers.

**Keywords:** advanced care planning, knowledge, attitude

## Introduction

Palliative care (PC) is a crucial part of integrated, people-centered health services. Relieving serious health-related suffering by impeccable assessment, treatment, and prevention be it physical, psychological, social, or spiritual is a global ethical responsibility. Thus, whether the cause of suffering is cardiovascular disease, cancer, major organ failure, severe burns, end-stage chronic illness, or extreme frailty of old age,<sup>1-4</sup> advanced care planning (ACP) can be conducted at any age or stage of health to better understand and share the personal values, life goals, and preferences of patients regarding future medical care. The goal of ACP is to ensure that people receive medical care that is consistent with their values, goals, and preferences during serious and chronic illness.<sup>5,6</sup> Patients with limited life expectancy need to understand their prognosis to make good choices about care. ACP is an important aspect of this care but can be especially difficult to address.<sup>7</sup>

In Thailand, ACP is conducted primarily for PC patients. Survey results from 14 hospitals found that 18.9% of admitted patients met the PC criteria, while only 17.3% of PC patients were referred for PC services. The PC referral group completed ACP at 88.8%, while the non-PC referral group completed ACP at only 15.7%.<sup>8,9</sup> The overall ACP rate was 283.6 per 1,000 PC patients, despite ACP being one of the key point index (KPI) values of healthcare services designated by the Ministry of Public Health.<sup>10</sup> Knowledge, attitude, and training are essential for conduct and adherence to ACP.<sup>11-16</sup>

The Serious Illness Conversation Guide (SICG) is a step-by-step ACP conversation guide that was developed by Ariadne Labs. It is very useful to set up a conversation, explore the preferences, goals, and values of patients, share prognosis, and document ACP conversations.<sup>17</sup> The Karunruk Palliative Care Center (KPC) adapted and modified the SICG into the Thai language and Thai context for use as a modified Serious Illness Conversation Guide (mSICG) for ACP training among Thai PC providers. The KPC established the first ACP clinic and the first PC-chronic kidney disease (CKD) joint clinic in Thailand. In 2023 The KPC also arranged mSICG-ACP training workshops for PC and renal providers from 12 health sectors across Thailand. This study evaluates the knowledge, attitude, and practice (KAP)

gained by members of both disciplines and the improvements in ACP after the training.

## Methods

### Study design and setting

This quasi-experimental pretest and posttest study was approved by the Ethics Committee of Khon Kaen University (HE661425). Data collection from the 12 mSICG-ACP training workshops was conducted between 16 October and 8 December 2022. The KPC team traveled to all 12 health sectors and implemented an mSICG-ACP training workshop for each health sector.

### Participants

The participants were recruited by convenience sampling from 12 health sector offices in Thailand. Each health sector office and provincial public health office selected doctors and nurses who routinely provided PC or CKD care. A total of 600 healthcare providers were selected to participate in the 12 ACP training workshops.

### Instrument

The KAP questionnaire of ACP for medical personnel was adapted from Alethea Yee's questionnaire with permission. This questionnaire measures knowledge, attitude, and practice in advanced healthcare planning for personnel caring for kidney disease patients throughout Singapore.<sup>18</sup> The questionnaire was adapted and developed by three PC experts and tested by 10 PC personnel. Minor revisions were made according to suggestions from the pilot study. The questionnaire consisted of four parts basic demographics of the professionals and knowledge, attitude, and practice toward ACP. The first part included the demographics of the participants as age, gender, level of working hospital, the role of medical professionals (PC doctors, PC nurses (PCN), CKD doctors, CKD nurses, and others), and duration of working experience. The second part of knowledge contained nine items on a 2-point scale (0:No, 1:Yes). The scores for each item were summed, with higher scores indicating higher knowledge (score range 0-9). The attitude domain as the third part consisted of 16 items using a 5-point Likert scale (1: strongly disagree, 2: disagree, 3: no comment, 4: agree, 5: strongly agree), with higher scores indicating a good attitude. The scores from all negative questions in the attitude domain were

converted to positive scores and 15 items were summarized as attitude scores, except for item 1, "I would like to do ACP discussion more than advance directive (AD)" (attitude score range 1-5). The last part as practiced in the ACP discussion contained eight items. The first five items summarized the practice score, while the remaining three items addressed the identity of the initiator to start an ACP conversation, ACP training, and factors that improved confidence in the ACP discussions (practice score range 0-5).

### Program implementation and evaluation

From October to December 2022, all participants (PC doctors, CKD doctors, PC nurses, CKD nurses, and other health workers) from 12 health sectors in Thailand were invited to attend an ACP training workshop. The participants completed the pretest before attending the training session consisting of a shared decision-making and ACP lecture, a reflection learning session on Extremis VDO, communication skills and introduction to mSICG lecture, an ACP workbook and living will workshop, and an mSICG-ACP role play workshop with two case scenarios. After the training, the participants completed the posttest voluntarily.

### Data collection

The questionnaires were distributed and collected at two-time points. On the training day, all health professionals were invited to participate and complete the questionnaire (pretest). The first set of questionnaires was returned to the research assistants before the beginning of the first training session. The second set of questionnaires was distributed and collected at the end of the training day (posttest). The items in both questionnaires were the same.

### Statistical analysis

Baseline data were descriptively analyzed as numbers and percentages for each categorical variable. The pretest and posttest scores were presented as mean values with standard deviation (SD). A paired t-test was conducted to compare the pretest and posttest mean scores with a significant difference set at  $p \leq 0.05$ . All analyses were performed using STATA version 15 (Stata-Corp, College Station, TX).

## Results

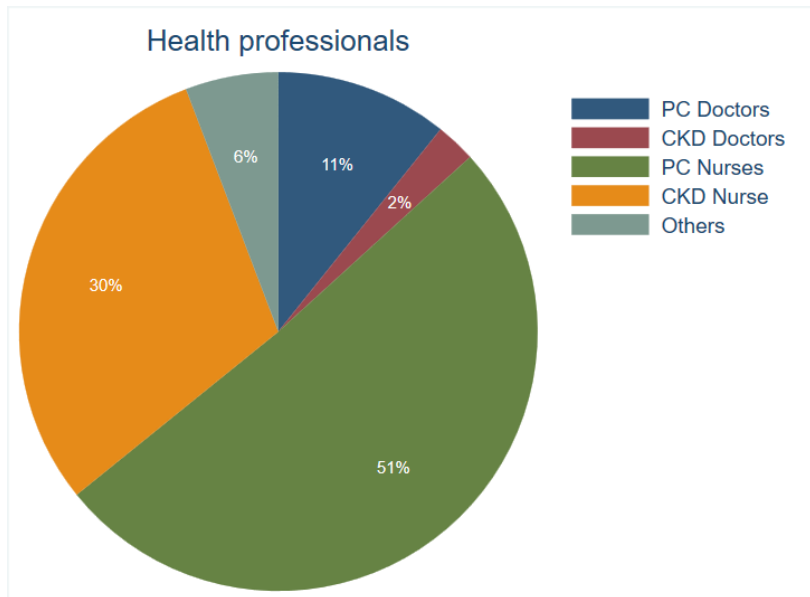
Out of the 483 participants who completed the pretest and posttest, 453 were female (93.8%) and 30 were male (6.2%). Half of the participants were aged 46-50, a quarter were 36-45 and the rest were 25-35 years old. Nearly half of the respondents (45.6%) worked at community hospitals, and 48.9% had more than 20 years of work experience. A quarter of the respondents had PC experience < 1 year, while 41.7% had PC experience of one to five years (Table 1). Half of the participants (50.9%) were PCNs, 10.8% were PC doctors, 30% were CKD nurses, and 2.5% were CKD doctors (Figure 1).

Baseline knowledge and attitude of PC doctors, CKD doctors, PCN, and CKD nurses were similar with knowledge mean scores of  $8.15 \pm 1.42$ ,  $7.25 \pm 1.36$ ,  $8.09 \pm 0.82$ , and  $7.58 \pm 1.08$  and attitude mean scores  $3.83 \pm 0.62$ ,  $3.63 \pm 0.47$ ,  $3.72 \pm 0.43$ , and  $3.45 \pm 0.39$ , respectively. Practice mean scores of PC doctors ( $3.73 \pm 1.07$ ) and PCN ( $3.50 \pm 1.14$ ) were higher than CKD doctors ( $2.98 \pm 1.48$ ) and CKD nurses ( $2.37 \pm 1.31$ ) (Figure 2).

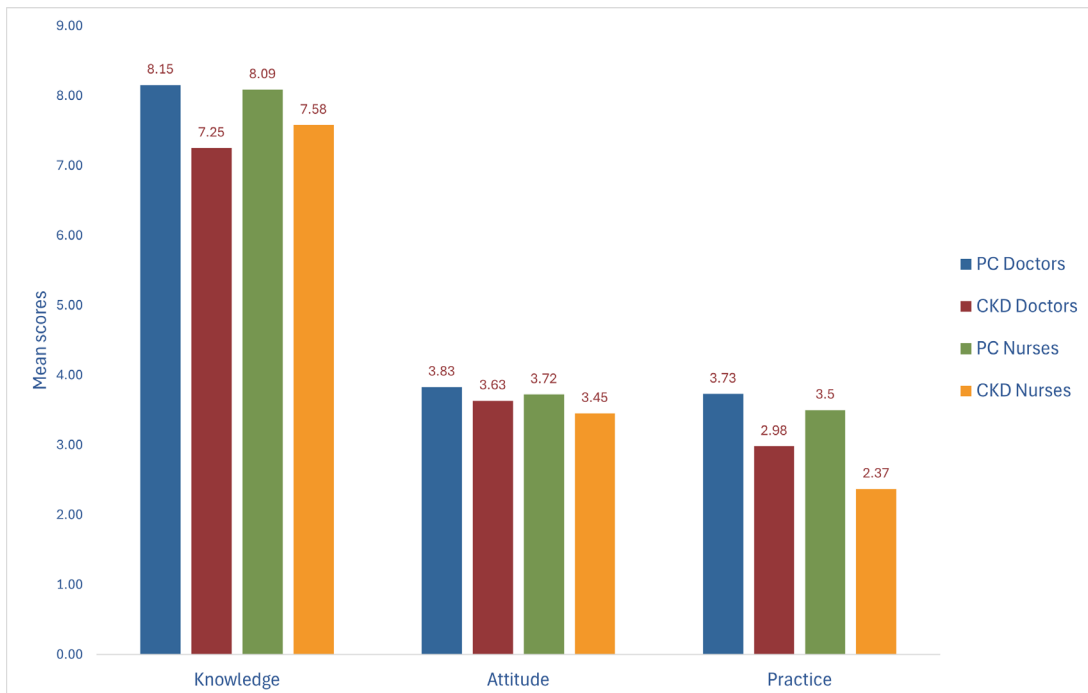
**Table 1.** Characteristics of participants (n=483)

Characteristics	Number (%)
Gender (n=483)	
Female	453 (93.8)
Age (year) (n=355)	
25-35	81 (22.8)
36-45	100 (28.2)
46-60	174 (49.0)
Hospital level (n=478)	
Regional hospital	92 (19.1)
General hospital	166 (34.4)
Community hospital	220 (45.6)
Working experience (years) (n=482)	
<1	9 (1.9)
1-5	58 (12.0)
6-10	84 (17.4)
11-15	48 (10.0)
16-20	47 (9.8)
>20	236 (48.9)
Palliative care experience (years) (n=461)	
< 1	121 (26.3)
1-5	192 (41.7)
6-10	111 (24.1)
11-15	26 (5.6)
16-20	9 (1.9)
>20	2 (0.4)

PC, palliative care; CKD, chronic kidney disease



**Figure 1.** Health professionals of participants (n= 483)  
PC, palliative care, CKD: chronic kidney disease



**Figure 2.** Mean scores of knowledge, attitude, and practice by health professionals  
PC, palliative care; CKD, chronic kidney disease

The mean score of ACP knowledge before ACP training was 7.91 (SD=1.03) and the post-test score was 7.96 (SD = 1.06). The knowledge mean score was higher but not significantly different after training ( $p = 0.418$ ). The pretest attitude mean score was 3.64 (SD = 0.46) and the posttest score was 3.84 (SD = 0.53). The posttest mean score was significantly higher than the pretest value ( $p \leq 0.001$ ) (Table 2).

After the training, the knowledge mean scores of PC doctors and CKD doctors improved from

$8.15 \pm 1.42$  to  $8.29 \pm 0.72$  and from  $7.25 \pm 1.36$  to  $8.08 \pm 1.44$ , respectively while the mean score of CKD nurses significantly improved from  $7.58 \pm 1.08$  to  $7.93 \pm 1.03$ ,  $p \leq 0.001$ . The mean score of PC nurses did not significantly increase, while the attitude of PC nurses and CKD nurses significantly increased ( $p < 0.001$ ). No significant differences were observed between the pretest and posttest mean scores among PC doctors, CKD doctors, and other health workers. The pretest and posttest training mean scores of practice

were not compared, while practice pretest mean scores of providers were PC doctors  $3.73 \pm 1.07$ , CKD doctors  $2.98 \pm 1.48$ , PC nurses  $3.50 \pm 1.14$ , CKD nurses  $2.37 \pm 1.31$ , and other providers  $2.84 \pm 1.41$  (Table 3).

## Discussion

This report evaluated the knowledge, attitude, and practice of ACP among Thai PC and CKD medical providers both before and after attending an mSICG ACP workshop. The participants represented each of the 12 healthcare sectors across Thailand. Therefore, the study results can be generalized to Thai PC and CKD providers but not to CKD doctors (nephrologists) because only 12 nephrologists participated. Most participants had high working experience but low exposure to the PC field. The overall knowledge and attitude mean scores of PC providers were slightly higher than CKD providers. The practice mean score of PC providers was higher than CKD providers as expected because most PC providers engage in ACP discussions with both patients and family members.<sup>8,19,20</sup>

After the mSICG-ACP training module, the mean scores of knowledge and attitude improved, with the overall knowledge mean score showing only a small increase due to the large percentage of PC providers (60%) who were familiar with PC and ACP. The knowledge of CKD nurses improved significantly,  $p < 0.001$ , while the knowledge mean

score of CKD doctors improved from 7.25 to 8.08 (11.4% improvement) with no significance due to a small number of samples. The attitude mean scores of PC nurses and CKD nurses improved significantly after the training. The ACP training program improved the knowledge and attitude of participants similar to other programs and studies.<sup>14-16,21</sup> The mSICG- ACP training program was adapted to the Thai language and Thai context and gave positive outcomes. However, completing the pretest and posttest on the same day might not provide a realistic difference in long-term scores.

## Limitations

Firstly, the CKD doctor score could not be inferred to a larger population due to the limited study population size. Secondly, the practice domain was not appropriate when measuring the score difference after only a one-day training program. Thirdly, the pretests and posttests were conducted on the same day because of convenience but the results might not represent realistic long-term outcomes. A follow-up at three to six months posttest was suggested for further study.

## Conclusions

This research evaluated KAP toward ACP using Thai PC and CKD professionals as the subjects. The KAP of PC professionals was higher

**Table 2.** Overall mean scores of knowledge and attitude (n=483)

Category	Pre-test		Post-test		p-value
	Mean	SD	Mean	SD	
Knowledge	7.91	1.03	7.96	1.06	0.418
Attitude	3.64	0.46	3.84	0.53	<0.001

PC, palliative care; CKD, chronic kidney disease

**Table 3.** Overall mean scores of knowledge and attitude (n=483)

Health professional	Knowledge			Attitude			Practice Pre-test Mean±SD
	Pre-test Mean±SD	Post-test Mean±SD	p-value	Pre-test Mean±SD	Post-test Mean±SD	p-value	
PC doctors	8.15±1.42	8.29±0.72	0.419	3.83±0.62	4.00±0.42	0.051	3.73±1.07
CKD doctors	7.25±1.36	8.08±1.44	0.285	3.63±0.47	3.48±1.13	0.567	2.98±1.48
PC nurses	8.09±0.82	7.98±0.99	0.067	3.72±0.43	3.88±0.53	<0.001	3.50±1.14
CKD nurses	7.58±1.08	7.93±1.03	<0.001	3.45±0.39	3.77±0.40	<0.001	2.37±1.31
Others	8.00±0.98	7.29±1.72	0.069	3.64±0.43	3.75±0.82	0.372	2.84±1.41

PC, palliative care; CKD, chronic kidney disease

than CKD providers. Both knowledge and attitude improved after the training. The mSICG-ACP workshop showed promise as beneficial for ACP training and should be implemented for all personnel who take care of patients with advanced disease.

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