Original Research Article

Telepalliative Care in Home-Based Nursing Care for Older Adults With Metastatic Cancer Post COVID-19: An Ethnoscientific Study

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Jinpitcha Sathiyamas[1,2], Chatchai Mingmalairak[3], Bunyong Rungroungdouyboon[1] and Chawakorn Sri-Ngernyuang[4]

Abstract

Introduction: The post-COVID-19 pandemic caused the whole world to make several changes to the nursing healthcare system. This sudden shift raised questions about telepalliative care in home-based nursing care in the context of healthcare utilization, including meeting the needs of older adults with metastatic cancer. The evidence suggests that telepalliative care in home-based nursing care is acceptable to most advanced practice nurses, but the extent of their use for metastatic cancer patients has not been defined.

Objectives: To explore the use of telepalliative care in home-based nursing care for older adults with metastatic cancer in central Thailand following the post-COVID-19 pandemic.

Methods: A qualitative approach with an ethnoscientific design was used to collect data from a purposive sample of 15 advanced practice nurses from May to September 2023. The interview transcripts were analyzed using componential analysis (core coding, categorizing, theme, and emerging theory).

Results: The componential analysis revealed two themes of telepalliative care in home-based nursing care for older adults with metastatic cancer in the post COVID-19 pandemic. The first theme is telepalliative care delivery, with subthemes of delivering practice, nurse-mediated feedback and supportive care, remote monitoring of real-time emergencies, and transferring medical data. The second theme is advanced practice nurses' (APN) role in telepalliative nursing care, including the subthemes of virtual monitoring, life-threatening cancer, side effects, caregiving capacity, continuity of care, and long-term care services. The study found that caregiving capacity, continuity of care, and long-term care services were formed of telepalliative care in home-based nursing care for cancer patients following the COVID-19 pandemic.

Conclusion: Telepalliative care in home-based nursing care is effective in delivering services to older adults with metastatic cancer during the post-COVID-19 pandemic. The findings suggested that remote monitoring of real-time emergencies, life-threatening cancer, and long-term care services are part of telepalliative care in home-based nursing care. Adapting the telepalliative competency standards of advanced practice nurses is needed to ensure high-quality healthcare access for older adults with metastatic cancer during the post-COVID-19 pandemic.

Keywords

palliative supportive care, telecare, cancer survivor, home-based nursing care, advanced practice nursing, COVID-19, Thailand

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[1]Department of Adult Nursing and the Aged, Faculty of Nursing, Thammasat University, Pathum Thani, Thailand
[2]Center of Excellence in Creative Engineering Design and Development, Faculty of Engineering, Thammasat University, Pathum Thani, Thailand
[3]Department of Surgery, Faculty of Medicine, Thammasat University, Pathum Thani, Thailand
[4]Faculty of Engineering and Agro-Industry, Maejo University, Chiang Mai, Thailand

Corresponding Author:
Jinpitcha Sathiyamas, Department of Adult Nursing and the Aged, Faculty of Nursing, Thammasat University, Pathum Thani 12120, Thailand.
Email: aorjinpitcha@gmail.com

Introduction

The post-COVID-19 pandemic dramatically increased the delivery of telepalliative care in nursing worldwide (Chua et al., 2022; Jiang et al., 2020). Telepalliative care in home-based nursing care has been continually used in technology-driven ways since the end of the COVID-19 pandemic. However, conditions, such as metastatic cancers, also require advanced practice nurses (APNs) (Cormi et al., 2021). A large percentage (38.7–59.0%) of metastatic cancer patients in home-based nursing care are reported to have experienced COVID-19-induced treatment delays (Papautsky & Hamlish, 2020). Previous studies reported delays of over 12 weeks in providing care for metastatic cancer, risking its migration to other parts of the body (Hanna et al., 2020).

Since the end of the COVID-19 emergency, telepalliative care strategies have successfully altered the clinical outcomes of nursing care delivery for metastatic cancers (Levoy et al., 2022). Telepalliative care is valuable in enabling nursing care delivery for metastatic cancers, but the role of APNs remains uncertain (Schenker et al., 2021). Telepalliative care in home-based nursing care effectively delivers health services for metastatic cancer patients with physical symptoms, psychological issues, and poor quality of life (Chung et al., 2022). Telepalliative care in home-based nursing care can take many forms, including, but not limited to, video meetings between APNs and patients, smartphone applications for caregivers, and remote monitoring programs (Rosa et al., 2023).

Thailand is one of the biggest healthcare providers in Southeast Asia and has been increasingly using telepalliative care in home-based nursing care since the start of the COVID-19 pandemic (Mamom & Daovisan, 2024; Pengput & Schwartz, 2022). A recent report from areas afflicted with COVID-19 in the earlier stages of the pandemic has suggested a potential impact on both the volume and timeliness of older adults with metastatic cancers in home-based nursing care (Pumipak et al., 2023). As the post-COVID-19 pandemic continues in 2022, involving APNs in telepalliative care in home-based nursing care for older adults with metastatic cancers more permanently is being considered. Many APNs have expressed concern about the potential consequences of delayed care for metastatic cancer patients in home-based nursing care (Alom et al., 2021; Kerr et al., 2021; Stewart et al., 2021).

Despite these concerns, few studies have explored how APNs provide telepalliative care in home-based nursing care for older adults with metastatic cancers in central Thailand following the COVID-19 pandemic (Duangchan et al., 2021; Mamom & Daovisan, 2024; Upasen et al., 2022). Prior studies on telepalliative care in home-based nursing care for metastatic cancers have focused on virtual waiting rooms (Aldana et al., 2023), interventions (Chen et al., 2023), emotional responsiveness (Hutchinson et al., 2022), and telepalliative care delivery post-COVID-19 pandemic (Levoy et al., 2022). Other studies include systematic reviews (Chen et al., 2023; Hanna et al., 2020), intervention studies (Chung et al., 2022), qualitative studies (Cormi et al., 2021), and mixed-methods studies (Hutchinson et al., 2022).

Previous studies exploring telepalliative care in home-based nursing care for older adults with metastatic cancers during the post-COVID-19 pandemic are limited (Aldana et al., 2023; Chen et al., 2023; Cormi et al., 2021; Kerr et al., 2021; Pumipak et al., 2023; Schenker et al., 2021). To address this gap, the application of telepalliative care for metastatic cancer and its ability to provide safe, rapid, and high-quality care in home-based nursing care must be explored. This study was conducted in central Thailand to develop the first mobile telepalliative care for metastatic cancer patients in home-based nursing care. This study aimed to explore APNs' roles in providing telepalliative care in home-based nursing care for older adults with metastatic cancers during the post-COVID-19 pandemic.

Review of Literature

Metastatic Cancers in Post-COVID-19 Thailand

Since the Thai government declared the end of the COVID-19 emergency on 1 October 2021, the demand for telepalliative care delivery has increased in home-based nursing care (Pasanen et al., 2022; Pumipak et al., 2023). Telepalliative care in home-based nursing care for metastatic cancers is the most effective approach for providing care to older adults with a life-limiting illness in home-based nursing care. As the post-COVID-19 period continues in 2022, Thailand has reported 190,636 new cancer cases, and 124,866 cancer patients have died, making cancer the leading cause of death in 2020 (Tiyawatanaroj et al., 2022). There has been a 40% increase in new cancer diagnoses in home-based nursing care (Huang et al., 2022).

Central Thailand is one of the biggest areas for delivering primary care for metastatic cancer in home-based nursing care in the post COVID-19 pandemic. Insamran and Sangrajrang (2020) defined six strategy measures for healthcare delivery, namely, (i) cancer informatics, (ii) primary prevention, (iii) early detection, (iv) treatment, (v) palliative care, and (vi) cancer control research. New cancer registrations account for 31.2% of the patients provided access to telepalliative care in home-based nursing care. Metastatic cancer patients are among the most vulnerable groups and are interested in using mobile visits, with a greater preference for telecare in home-based nursing care.

APNs' Roles in Telepalliative Care in Nursing Homes

Telepalliative care in home-based nursing care includes a broad range of telehealth services to support the remote medical monitoring of patients (Calton et al., 2019), including closed-circuit television, telephone, real-time video communication, and teleconference. Since the first COVID-19

wave in March 2020, hospitals, Medicare centers, and Medicaid regulations have allowed the expansion of telepalliative care in home-based nursing care (Aldana et al., 2023; Chua et al., 2022; Cormi et al., 2021; Rosa et al., 2023). As the COVID-19 pandemic continued in 2022, telepalliative care in home-based nursing care was broadly adopted and found to be an effective mode of nursing care delivery, particularly in outpatient and home-based settings (Pengput & Schwartz, 2022; Schenker et al., 2021).

Currently, the best practices for APNs performing telepalliative care in home-based nursing care for metastatic cancer patients have yet to be established (Cormi et al., 2021; Levoy et al., 2022; Pasanen et al., 2022). Aldana et al. (2023) defined two dimensions of delivering telepalliative care in home-based nursing care: out-of-hospital and hospice palliative care delivery between providers and patients. Rosa et al. (2023) suggested that APNs can ensure the provision of high-quality telepalliative care in home-based nursing care. APNs, being the backbone of nursing care delivery, are expected to initiate symptom-focused care for metastatic cancer patients in home-based nursing care (Grudzen et al., 2022).

APN-provided telepalliative care in home-based nursing care for older adults with metastatic cancer has been used to great effect in outpatient and home-based settings during the post-COVID-19 pandemic (Aldana et al., 2023; Rosa et al., 2023). Advanced telepalliative care in home-based nursing care for metastatic cancer has been shown to improve outcomes, such as the remote monitoring of real-time emergencies, life-threatening cancer, and continuity of care (Banerjee et al., 2022). Building telepalliative care in home-based nursing care in the post-COVID-19 period largely depended on rapid nurse-mediated feedback, real-time monitoring, supportive care, and the virtual diagnosis of side effects (Alom et al., 2021; Burbury et al., 2021; Ebrahimabadi et al., 2021; Jiang et al., 2020; Upasen et al., 2022). The present study focused primarily on mobile telepalliative care using two-way video for older adults with metastatic cancer in home-based nursing care in central Thailand.

Purpose

The main purpose of this ethnoscientific study was to explore how APNs provided telepalliative care in home-based nursing care for older adults with metastatic cancer in central Thailand during the post-COVID-19 pandemic.

Methods

Study Design

A qualitative approach with an ethnoscientific design (Morey & Luthans, 1984) was used to discern how APNs provide telepalliative care in home-based nursing care for older adults with metastatic cancer in central Thailand post-COVID-19 pandemic. This design provides insights into the scientific perspective of "insider" APNs using telepalliative care in home-based nursing care for older adults with metastatic cancer and allows the researchers to draw information directly from the interviewees, making it more useful and less biased. Graffigna et al. (2011) suggested that an ethnoscientific design is an extremely reliable, valid, and valuable tool for obtaining knowledge.

Study Setting and Participants

This ethnoscientific study took place in three sites: Bangkok, Pathum Thani, and Ayutthaya province in central Thailand. The setting was chosen to explore the Advanced Practice Nurse Association (APNA) regarding the Thailand Nursing and Midwifery Council. According to Silapavit (2021), Thai APNs are approved via an annual certification, with approximately 10% of Thai nurses in advanced practice. The APNs practiced in the following six specialties: maternal/newborn, pediatrics, medical/surgical, mental health/psychiatric, community health, and gerontology. A total of 136 APNs is currently employed in tertiary hospitals to provide telepalliative care for cancer in central Thailand (Silapavit, 2021).

These APNs effectively deliver telepalliative care in home-based nursing care to older adults with metastatic cancer in central Thailand. The APNs who primarily provided metastatic cancer care could use either a smartphone, a tablet, or a computer to interact with a nurse in a preassigned schedule. The metastatic cancer patients had the following characteristics: (i) aged 65 years and above, (ii) lived at home before being admitted to a tertiary hospital and after being discharged, (iii) diagnosed with cancer within 1 month before enrollment, (iv) referred to nurse-led cancer care with the patient-caregiver dyad, and (v) had a virtual appointment. APNs who had provided telepalliative care in home-based nursing care for a minimum of 3 years were invited to participate in this study.

Research Question

This ethnoscientific study explored the following research questions:

RQ1: What is the process of telepalliative care for older adults with metastatic cancer during the post-COVID-19 pandemic?

RQ2: What are APNs' roles in telepalliative care in home-based nursing care for older adults with metastatic cancer during the post-COVID-19 pandemic?

Ethical Considerations

This ethnoscientific study was ethically approved by the Human Research Ethics Committee of Thammasat University (Science), Thailand and conducted according to the Declaration of Helsinki, the Belmont Report, CIOMS

Guidelines, and International Practice (ICH-GCP) (COA No. BLINDED REVIEW). All interviewees were informed of the research objective; their participation was voluntary; and they signed an informed consent document. The interviewees' anonymity, privacy, and confidentiality, as well as the safekeeping of personalized information were guaranteed at all stages of the study. The interviewee names were anonymized and reported only at an aggregate level. Identifiers were removed from the transcripts, and codes were used to label interviewees (e.g., TCN1, TCN2, TCN3), as shown in Table 1.

Criteria, Sampling, and Interviewees

The inclusion criteria of the interviewees were selected based on APNs for older adults with metastatic cancer in telepalliative care in home-based nursing care with 3 years of experience. The inclusion criteria were (i) APNs delivering nursing care, (ii) the function of the telepalliative setting, (iii) home-based nursing care teams, (iv) members of the Nurses' Association of Thailand, (v) working in tertiary hospitals, and (vi) having metastatic cancer expertise in home-based nursing care. APNs continuing to provide telepalliative care in home-based nursing care for metastatic cancer from the early phase of the COVID-19 pandemic until its end were included. APNs providing telepalliative care for dementia, schizophrenia, manic-depressive disorders, or intellectual disabilities were excluded.

A purposive sampling technique was utilized to recruit the interviewees (Barratt et al., 2015). In the first stage, APNs who had a professional certification in palliative care from the Thai Nursing Council were selected. In the second stage, APNs involved in telepalliative care in home-based nursing care for older adults with metastatic cancer (patient-to-provider, advance care planning, remote patient monitoring, mobile health, and regular mobile video check-ins) were assessed. In the third stage, a list of 115 APNs in Bangkok, 15 in Pathum Thani, and six in Ayutthaya province were traced. Finally, 15 APNs are providing telepalliative care in home-based nursing care for metastatic cancer patients in three sites of central Thailand were randomly selected (see Table 1).

Procedures

In-depth interviews were scheduled at the interviewees' convenience and conducted individually via telephone or email. The interviewee had the option of participating in the interview (i) at the university, (ii) in a research room, or (iii) at their home address. All interviewees provided written consent to participate in the study and received a detailed information sheet and interview guidelines. Each in-depth interview lasted 70–90 min, and the participants were (re) interviewed thrice in May 2023, June 2023, and July 2023. The in-depth interviews, which contained four central and 13 probing questions, were developed in response to the study aims and the guidelines (see Table 2).

Analyses

All interview transcripts were analyzed using componential analysis in this qualitative ethnoscientific study (Leininger, 1990). Interview transcripts were first organized in the formal semantic analysis according to contrasting sets, emic, etic, and lexeme. This approach described word meaning, elementary meaning components, and attribute dimensions (ideally, complete list and domain). In the second step, the data were categorized by paradigm, taxonomy, theme, and sub-theme. This step provided systematic

Table 1. Interviewee Characteristics.

No.	Gender	Age	APNEX	TPS	Telepalliative focus
TCN1	Female	35	6 years	Clinical nurse specialist	Pain, breathlessness, and fatigue
TCN2	Female	44	10 years	Medical-surgical advanced practice nurse	Pain, breathlessness, and fatigue
TCN3	Female	45	11 years	Medical-surgical advanced practice nurse	Headache, breathlessness
TCN4	Female	43	6 years	Medical-surgical advanced practice nurse	Pain, breathlessness, and fatigue
TCN5	Female	52	10 years	Medical-surgical advanced practice nurse	Pain, fatigue, nausea, and vomiting
TCN6	Female	50	9 years	Medical-surgical advanced practice nurse	Pain, fatigue, nausea, and vomiting
TCN7	Female	62	12 years	Medical-surgical advanced practice nurse	Pain, breathlessness, and fatigue
TCN8	Female	49	9 years	Medical-surgical advanced practice nurse	Pain, breathlessness, and fatigue
TCN9	Female	45	6 years	Medical-surgical advanced practice nurse	Pain, breathlessness, and fatigue
TCN10	Female	51	7 years	Clinical nurse specialist	Pain, nausea, vomiting, and fatigue
TCN11	Female	40	5 years	Medical-surgical advanced practice nurse	Pain, breathlessness, and fatigue
TCN12	Female	43	5 years	Medical-surgical advanced practice nurse	Pain, breathlessness, and abdominal pain
TCN13	Female	51	6 years	Medical-surgical advanced practice nurse	Pain, anorexia, early satiety, nausea, and vomiting
TCN14	Female	59	9 years	Clinical nurse specialist	Pain, breathlessness, and fatigue
TCN15	Female	55	5 years	Clinical nurse specialist	Pain, breathlessness, and fatigue

Note. APNEX=advanced practice nurse experience; TPS=telepalliative setting.

Table 2. Central and Probing In-Depth Interview Questions.

In-depth interview questions
General in-depth interview questions
What is the meaning of a telepalliative care for you?
Could you please explain your experience in telepalliative metastatic cancer care?
What do you think about the role of advanced practice nurse skills in telepalliative metastatic cancer care?
What is the process of telepalliative care for older adults with metastatic cancer during the post-COVID-19 pandemic?
What is processed for delivering practices?
What is nurse-mediated feedback and supportive care?
What is used for the remote monitoring of real-time emergencies?
What is transferred medical data?
What are APNs' roles in telepalliative care in home-based nursing care for older adults with metastatic cancer during the post-COVID-19 pandemic?
How do you approach virtual monitoring?
How do you evaluate life-threatening cancer?
How do you diagnose side effects?
How does your provision in caregiving capacity?
How effective is your continuity of care?
How effective are your long-term care services?

ways to describe the similarities and dissimilarities between word meaning and theme grouping features.

In the third step, the main themes were distinguished as units of the domain to define the theory. In the fourth step, data saturation was ensured to interview data on the category for new repeatability, emergence of new codes, degree of identified themes, final thoughts, and developed theoretical saturation (Lowe et al., 2018). In the fifth step, data reporting was applied to the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist putting interview data into three domains: (i) research team and reflexivity, (ii) study design, and (iii) data analysis and reporting (Tong et al., 2007). In the final step, all code themes were merged with the theory (see Figure 1).

Rigor

A rigorous ethnoscientific procedure (Berreman, 1966) was followed to ensure credibility, transferability, dependability, and confirmability with the following components: (i) prolonged engagement (building trust with interviewees), (ii) persistent observation (looking in-depth and in detail), (iii) triangulation (combining different data sources while interviewing participants, questions, methods, and theories), and (iv) re-checking data (allowing interviewees to provide feedback after data analysis) (Korstjens & Moser, 2018). All rigorous analyses were developed by the first author for data analysis and three co-authors for peer revision to ensure the quality of the qualitative data. Ethnoscientific rigor was reflected in the iterative nature of the qualitative writing process to ensure newness, trueness, and transparency.

Results

Interviewee Characteristics

The characteristics of the 15 interviewees consisting of eight men and seven women who provided telepalliative care in home-based nursing care for older adults with metastatic cancer after the COVID-19 pandemic are provided in Table 3. The APNs had between 3 and 8 years of experience in telepalliative care in home-based nursing care, and 86.66% were certified APNs. Regarding the APNs' role, they performed telepalliative professional nursing (66.66%) and intensive telepalliative care (86.66%) for older adults with metastatic cancer in home-based nursing care.

Research Question Responses

From the interviewees' in-depth answers to *RQ1*, four subthemes were identified: delivering practices, nurse-mediated feedback and supportive care, remote monitoring of real-time emergencies, and transfer of medical data. The interviewees' responses to *RQ2* were categorized according to six subthemes: virtual monitoring, life-threatening cancer, side effects, caregiving capacity, continuity of care, and long-term care services. The key themes are depicted in Table 4.

Theme 1: Telepalliative Care Nursing

Sub-Theme 1: Delivering Practice. Most interviewees thought that delivering practice to metastatic cancer patients involves a complex relationship between APNs, patients, and family caregivers in the post-COVID-19 period. Telepalliative care in home-based nursing care for older adults with metastatic cancer encourages translating evidence into nursing practice, measuring quality, and improving performance and treatment plans. Telepalliative care in home-based nursing care for metastatic cancer continues improving with new therapies, nursing trial programs, and continuing care. The interviewees recognized the importance of delivering practice for metastatic cancer patients in home-based nursing care.

> The practices for telepalliative care in home-based nursing care are different from how I would normally have delivered in the hospital. This delivery has been very useful for me to provide my cancer patients from the early stages of COVID-19 to the end of the pandemic. (#TCN10_5TCE_MCC)

> Telepalliative care has really benefited from metastatic cancer care strategy, treatment planning, and new practice regulations. You know, it is not only delivering care practice, but

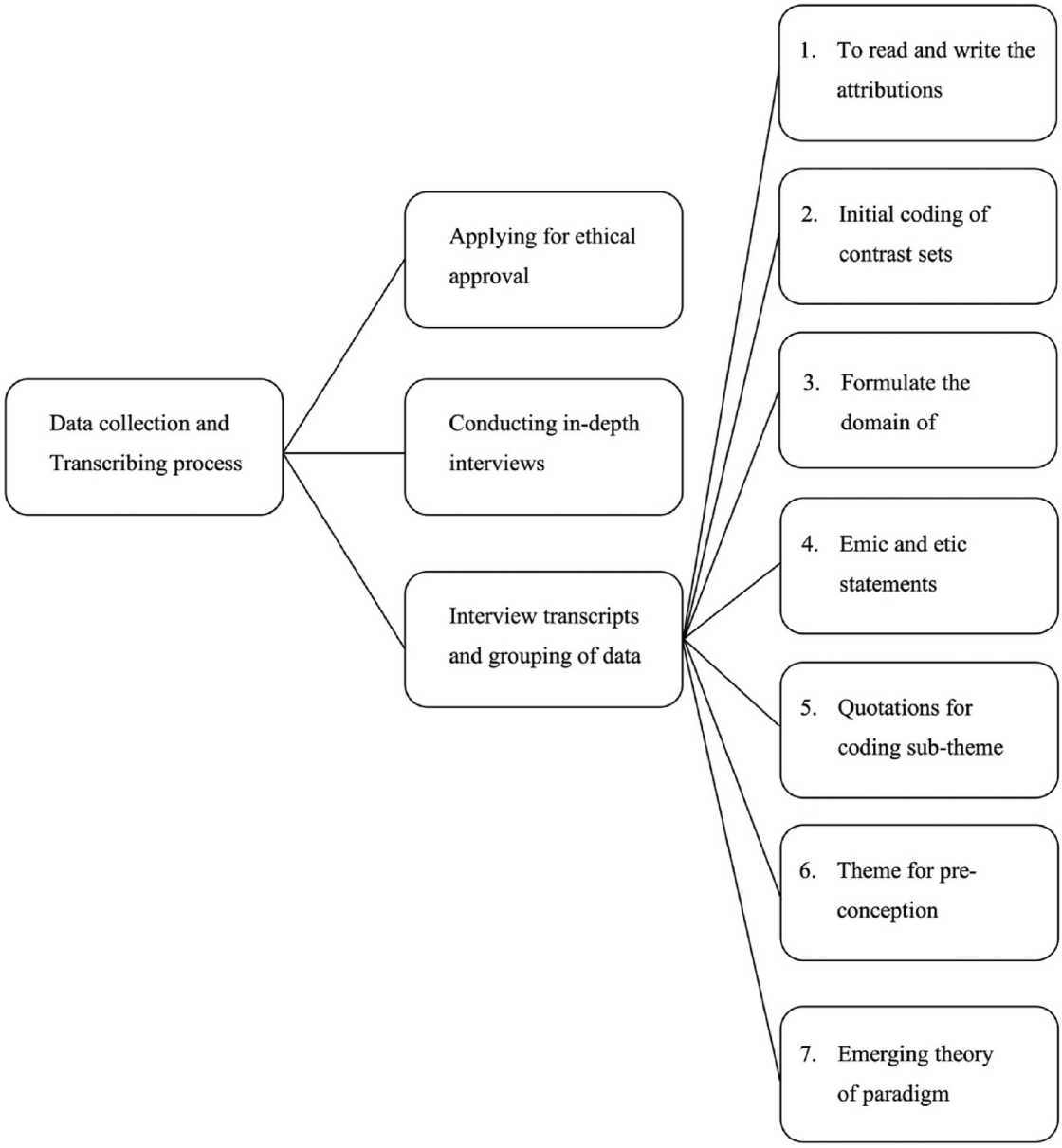

Figure 1. Data analysis process.

real-time video consultations between providers and patients. (#TCN3_6TCE_MBC)

Well, I have regularly used mobile telepalliative approaches carefully to treat, follow, and consult with my early-stage cancer patients. I'd say that we already perform telepalliative practice for first aid, medical check-ups, and monitoring tumor status. (#TCN15_4TCE_MBC)

The telepalliative care practice offers accurate diagnosis, treatment strategies, and consultations, perhaps, if I've had, it is essential distance caregiving to actually have, fit the cuff. (#TCN6_7TCE_MLC)

Yes, I suddenly understand telepalliative care in home-based nursing care, which I didn't before. For instance, delivering evidence into nursing practice, such as cell damage, immune cells, the bloodstream, and so on. (#TCN1_3TCE_MBC)

Sub-Theme 2: Nurse-Mediated Feedback and Supportive Care

Some interviewees reported that nurse-mediated feedback and supportive care for metastatic cancer patients in home-based nursing care have been widely used since the end of COVID-19. They also shared their views on nursing

Table 3. Interviewee Characteristics.

Characteristics	*n* (%)
Gender	
Female	7 (46.66)
Male	8 (53.44)
Age (years)	
<50	1 (6.66)
50–60	7 (46.66)
>60	7 (46.66)
Qualification	
APNs	13 (86.66)
Clinical nurse specialty	1 (6.66)
Nurse practitioners	1 (6.66)
Professional experience in telepalliative home-base nursing care	
<3 years	1 (6.66)
3–5 years	7 (46.66)
>5 years	7 (46.66)
Role in telecare	
Professional nursing with direct patient contact	5 (33.33)
Professional nursing + leadership role	10 (66.66)
Telepalliative care facilitator	
Telepalliative care team	2 (13.33)
Intensive telepalliative care	13 (86.66)

Table 4. Themes and Sub-Themes of Telepalliative Care.

Domain	Theme	Sub-Theme
Telepalliative care nursing	Telepalliative care delivery	Delivering practice
		Nurse-mediated feedback and supportive care
		Remote monitoring of real-time emergencies
		Transferring medical data
	APNs' role in telepalliative care nursing	Virtual monitoring
		Life-threatening cancer
		Side effects
		Caregiving capacity
		Continuity of care
		Long-term care services

knowledge, professional delivery, patient-specific feedback, and nurse–patient partnerships. This was largely because many of the APNs provided supportive care for metastatic cancer patients. Some interviewee responses are as follows:

> Well, I get patient-specific feedback once or twice a week. Telepalliative care for metastatic cancer in home-based nursing care helps me to plan treatment strategies, and it prevents tumor progression. (#TCN8_6TCE_MLB)

> Yeah, telepalliative care is very useful for my patient. You know, most of the patients' feedback helps me develop and modify new strategies for treatment. (#TCN13_8TCE_MHC)

> Mostly, for metastatic cancer, home-based nursing care is used, so why telepalliative care? Yes, delivery is not only caring, treating, and nursing; it can also reduce the stress associated with metastatic cancer from the early stages of coronavirus through the end of COVID-19. (#TCN4_5TCE_MBC)

Sub-Theme 3: Remote Monitoring of Real-Time Emergencies

The interviewees described that telepalliative care for older adults with metastatic cancer was a long-term care setting since the end of the COVID-19 pandemic. They explained that the remote monitoring of real-time emergencies helped with metastatic status assessment of tumors, early detection of minimal residual cancer, tumor microenvironment evaluation, and screening and treatment decisions. They provided the following reasoning for the use of remote monitoring for real-time treatment:

> Telepalliative care for metastatic cancer in home-based nursing care enables us to get real-time nursing data. It would probably have built up a quicker visualization of tumors, such as cancer growth, the spread of cancer, the tissue surrounding the tumor, and the lymph system. (#TCN14_6TCE_MBC)

> The visual platform allowed me to directly care for cancer patients. You know, it allows for preventing the early spread of cancer, real-time detection, and the assessment of metastasis. (#TCN13_8TCE_MHC)

> Telepalliative care can be used to screen for early cancer in patients with metastatic disease. I think that it is important to assess the tumor microenvironment, make treatment decisions, and develop new therapeutic strategies. (#TCN9_4TCE_MBC)

Sub-Theme 4: Transferring Medical Data

The transfer of medical data in the setting of telepalliative care in home-based nursing care for metastatic cancer depends on cloud-based services in the hospital. Some interviewees explained that the medical data transferred dealt with metastatic melanoma, synovial sarcoma, neuroblastoma, and refractory lymphoma. They expressed their views on transferring medical data on metastatic cancer:

> Telepalliative care allows the faster transfer of data on metastatic cancer during practical diagnoses. It can transfer the results of tests, report tumor progression, and process large cancer cohorts. (#TCN2_4TCE_MLC)

> Yeah, visualizing telepalliative care for metastatic cancer has been helpful in several ways. First, it enables fast-track treatments when cancer spreads. Second, it allows the comparison

of genomic data with nursing data. Finally, patients' data are available in electronic health records. (#TCN12_6TCE_MHC)

Theme 2: APNs' Role in Telepalliative Care Nursing

Sub-Theme 1: Virtual Monitoring. Virtual telepalliative care for metastatic cancer is a remote monitoring solution that enables the monitoring of vital signs. Many cancer behaviors that are included in in-person hospital visits require modification to optimize video visits between patients and APNs. The use of real-time virtual APNs for telepalliative care for metastatic cancer in home-based nursing care is exemplified in the following description:

> Most definitely, I think virtual monitoring is very helpful, in both mental and physical care. It's hugely important for the patients and their families, especially when they have pain, symptom control, and cancer survival. (#TCN5_4TCE_MLC)

> I think symptom monitoring is a new therapeutic strategy that enhances patient-reported outcomes, the monitoring of trajectories, intervention adherence and feedback, and quality of life. (#TCN11_7TCE_MHC)

Sub-Theme 2: Life-Threatening Cancer

Telepalliative care in cases of life-threatening cancer helps to slow tumor growth and quality of life that is improved by relieving symptoms and monitoring. Telepalliative care for life-threatening cancer assists in nursing assessment, intervention, treatment, and supportive care. These views on life-threatening cancer care were described by APNs with experience in home-based nursing care:

> I think one [effective life-threatening-disease strategy] was really an escape from the primary tumor, metastatic tumor cell, and a novel practice. I first delivered detective metastatic treatment, then evaluated metastatic disease, and managed metastatic mechanisms. (#TCN7_4TCE_MBC)

> Yes, the need for life-threatening cancer care has changed, but of course, I still need to deliver healthcare services regularly. You know, telepalliative services take a more patient-centered approach to facilitate monitoring, management of symptoms, and primary diagnosis. (#TCN1_3TCE_MBC)

Sub-Theme 3: Side Effects. Some interviewees commented on the importance of delivering telepalliative care in the management of cancer-related side effects during the post-COVID-19 pandemic. The telepalliative care visits based on the symptoms of metastatic cancer included addressing pain and fractures, headache, shortness of breath, and jaundice. The interviewees explained the side effects of metastatic cancer in home-based nursing care:

> At first, I thought telepalliative care for symptoms helps to evaluate the development of metastatic cancer. I mean, I can monitor the cancer spreading to a distant part of the body, which is very helpful for reducing depressive symptoms. (#TCN10_5TCE_MCC)

> Yeah, telepalliative care for cancer metastasis helps reduce the side effects of damage to blood vessels and the lymphatic system, as well as tiny tumor forms. (#TCN15_4TCE_MBC)

Sub-Theme 4: Caregiving Capacity. Around one-half of the interviewees reported that their caregiving capacity in home-based nursing care had improved regarding metastasis. They felt that the use of telepalliative care could be envisaged under responsibilities, caregiving-related stress management, psychosocial interventions, and the physical burden. The following interviewees described how the APNs' role in telepalliative care perceives their caregiving capacity:

> First of all, metastatic cancer — also called stage IV cancer — has spread to another part of the body. You know, caregiving providers can use telepalliative care for the management of symptoms and improving treatment outcomes. (#TCN8_6TCE_MLC)

> Yes, of course, I think telepalliative care helps me to provide patients and their families with disease-focused caregiving, essential supportive care, psychosocial interventions, and symptom reduction. (#TCN2_4TCE_MLC)

Sub-Theme 5: Continuity of Care. The interviewees expressed that they use new telepalliative strategies, modified nanomedicines, and monitoring when dealing with metastatic cancer. They explained that telepalliative care involves holistic diagnostic, therapeutic, management, and treatment information. Some interviewees emphasized how they ensure continuity of care for metastatic cancer in home-based nursing care:

> There are many roles involved in continuing telepalliative services for assessing pain, administering new drugs for pain, preventing, and developing care plans. (#TCN5_4TCE_MLC)

> When I know I'm going for a telepalliative care visit, I provide professional care, tumor diagnosis, patient-reported outcomes, and crisis management when the cancer spreads. (#TCN12_6TCE_MHC)

Sub-Theme 6: Long-Term Care Services. All interviewees defined long-term telepalliative services for metastatic cancer as both initial care and ongoing care in home-based nursing care. They talked about long-term telepalliative care consisting of support delivery, care planning, and symptom management. Some interviewees described this as follows:

> Well, long-term telepalliative providers can help me support my patient to cope with cancer while receiving intensive treatment. It also helps me to set boundaries between patients and their families for delivering healthcare in home-based nursing care. (#TCN13_8TCE_MHC)

> I provided long-term telepalliative services for care planning in home-based nursing care. I am going to figure out treatments, the long-term effects, prevention of cancer spread, and follow-up care outcomes. (#TCN6_7TCE_MLC)

The above quotes, themes, and sub-themes provide new insights into APNs' experience in telepalliative care for older adults with metastatic cancer during the post-COVID-19 pandemic. We found that the APNs were involved in remote monitoring, real-time emergencies, virtual monitoring, and life-threatening cancer, which is effective in long-term telepalliative care for metastatic cancer, as shown in Figure 2.

Discussion

This ethnoscientific study explored the role of APNs in telepalliative care for older adults with metastatic cancer in home-based nursing care in central Thailand during the post-COVID-19 period. The key findings illustrated that the provision of telepalliative care by APNs includes delivering practice, nurse-mediated feedback and supportive care, remote monitoring of real-time emergencies, and transferring medical data on metastatic cancer. The findings also emphasized virtual monitoring, life-threatening cancer, side effects, caregiving capacity, continuity of care, and long-term care services. Thus, based on the interviewees' reports, two themes encompassing 10 sub-themes emerged regarding the APNs' provision of telepalliative care in the post-COVID-19 period.

Theme 1 identified that APN providers form nursing practice plans for metastatic status of tumors and metastatic melanoma in home-based nursing care during the post-COVID-19 period. This finding is consistent with the work of Aldana et al. (2023), Bauer et al. (2022), and Rosa et al. (2023), revealing that nurse-led telepalliative care led to higher-quality outpatient nursing practice, care planning, virtual therapeutic practice, and patient-centered care. According to Cornetta et al. (2023), the telephonic monitoring of cancer patients provided bisacodyl, paracetamol, and omeprazole, evidence-based best practices for APNs in home-based nursing care. Likewise, Schmitt et al. (2022) illustrated that telepalliative practices were linked to complex teams, caregiver support, and supportive cancer care in home-based nursing care.

The sub-theme categorization illustrated that supportive care was encouraged, with professional delivery, patient-specific feedback, and nurse-patient partnerships. Of note, the study found that real-time status monitoring, follow-up care practice, remote monitoring solutions, and new

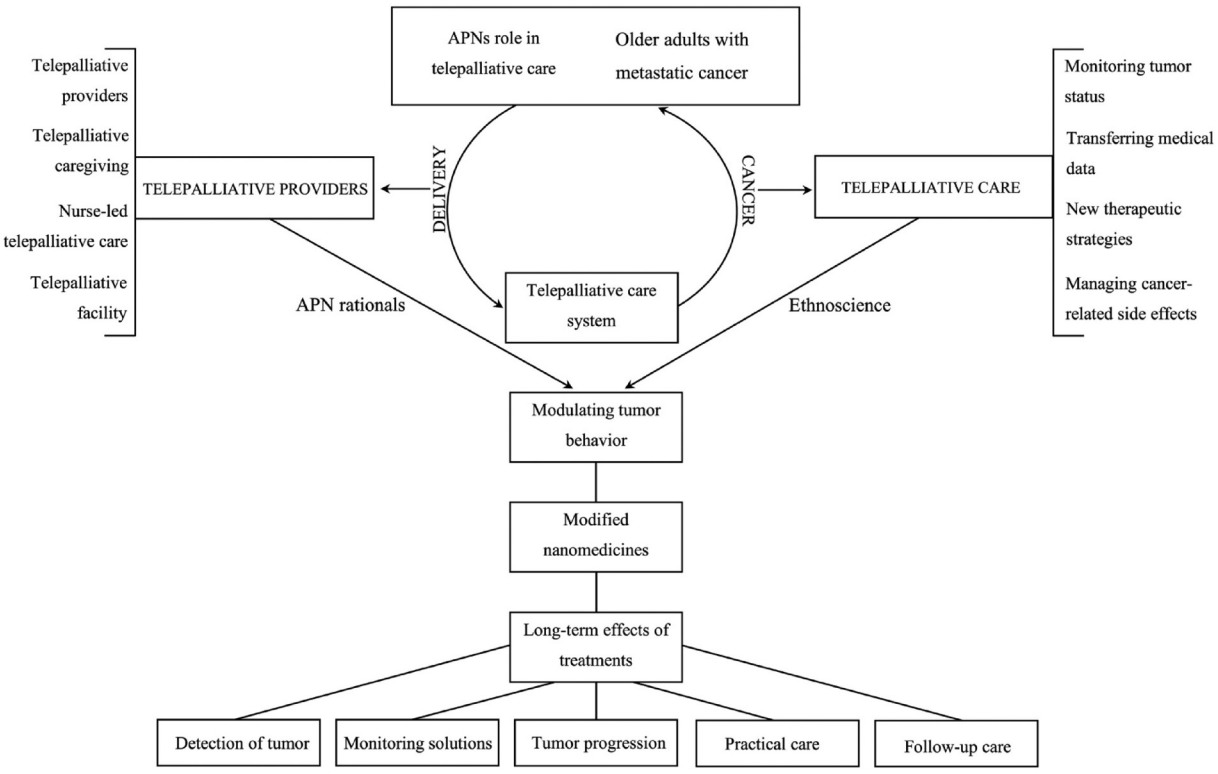

Figure 2. Model of APNs in telepalliative care for metastatic cancer care.

therapeutic strategies lead to practical care. Many studies found high-quality nursing providers for encouraging with safety, effectiveness, person-centered care, time, efficiency, and equitation in home-based nursing care during the post-COVID-19 pandemic (Chen et al., 2023; Ebrahimabadi et al., 2021; Jefford et al., 2022; Stewart et al., 2021). Similarly, Aldana et al. (2023), Cornetta et al. (2023), Hutchinson et al. (2022), Pasanen et al. (2022), and Rosa et al. (2023) revealed that advanced telepalliative care providers enhanced real-time remote cancer monitoring, cloud-based services, medical data transfer, and tumor progression reporting.

Theme 2 illustrated that APNs delivering telepalliative care were involved in virtual monitoring, life-threatening cancer, caregiving capacity, and long-term care services during the post-COVID-19 pandemic. The interviewees provided key insights into how remote monitoring solutions, real-time virtual monitoring, nursing assessments, cancer-related side effects evaluation, treatment information, and care planning were used by professional APNs in home-based nursing care. Advanced telepalliative care required APN responsibilities from the physician to the nurse, which helps to build capacity (Aldana et al., 2023; Rosa et al., 2023; Tan et al., 2021). Identifying telepalliative care for older adults with metastatic cancer would be key for complex healthcare settings, therapeutic interventions, and advanced care planning (Duangchan et al., 2021; Kashyap & Panda, 2020; Merlino et al., 2022).

Regarding the five sub-themes that emerged, the interviewees indicated that APNs' role in delivering telepalliative care was formed of video visits, novel practices, reducing side effects, holistic diagnostics, and intensive treatment. Taken together, these findings illustrated that patient-reported outcomes, treatment of metastases, and long-term figure treatment aligned with APNs delivering telepalliative care for metastatic cancer during the post-COVID-19 pandemic. Previously, Hutchinson et al. (2022), Jiang et al. (2020), Jefford et al. (2022), Levoy et al. (2022), and Mamom and Daovisan (2024) found that responsiveness in telepalliative care was linked to routine cancer care, primary palliative care interventions, and healthcare providers.

The findings of the current model (see Figure 1) support the use of telepalliative care for the treatment of metastatic cancer during the post-COVID-19 pandemic (Aldana et al., 2023; Cormi et al., 2021; Cornetta et al., 2023). APNs are shown to be important in the telepalliative metastatic cancer model, illustrating follow-up care, real-time monitoring solutions, new therapeutic strategies, and long-term effects of treatment. Chen et al. (2023), Jefford et al. (2022), and Rosa et al. (2023) assert that telepalliative care delivery liaises closely with APN providers for professional functioning, supportive care, cancer-related side effect management, and tumor detection. This involves on-the-spot delivery of telepalliative care by APNs regarding the real-time virtual monitoring of life-threatening cancer during the post-COVID-19 period (Alom et al., 2021; Levoy et al., 2022; Papautsky & Hamlish, 2020; Schmitt et al., 2022).

Implications for Practice

This study has some implications for practice. First, APNs, as telepalliative care providers, must develop an effective healthcare delivery system in home-based nursing care. APN providers are effective in primary care, real-time monitoring, technical support, and remote delivery, which can strengthen telepalliative care during the post-COVID-19 pandemic. Second, the findings suggest the potential practice of nurse-led interventions, life-threatening cancer, therapeutic tumor metastasis, and managing cancer-related side effects, which leads to effective telepalliative care in home-based nursing care. Finally, providing intensive care for cancer prevention via early detection, medicine modification, and long-term counseling for symptoms may warrant the provision of telepalliative care in home-based nursing care.

Strengths and Limitations

This is the first ethnoscientific study to elucidate the APN's role in telepalliative care for older adults with metastatic cancer during the post-COVID-19 pandemic. However, the study has some limitations. First, data collection was conducted with a single APN in central Thailand, which is not representative of other regions. Second, the study included only 15 interviewees; as such, the small sample size hampered analysis, and the results may not be generalizable to all APNs. Third, although the interviewees provided some valuable insights, the findings may have limited generalizability. Future studies should be conducted with larger samples, a conceptualized theoretical framework, formulated hypothesis testing, and construct validity scales.

Conclusion

This ethnoscientific study explored how APNs provide telepalliative care in home-based nursing care for older adults with metastatic cancer during the post-COVID-19 pandemic. Based on most of the interviewees' answers to *RQ1*, Theme 1 emerged, which indicated that telepalliative care in home-based nursing care involved delivering practice, nurse-mediated feedback and supportive care, remote monitoring of real-time emergencies, and transferring medical data. The interviewees' responses to *RQ2* gave rise to Theme 2, according to which APNs' delivery of telepalliative care in home-based nursing care involved virtual monitoring, life-threatening cancer, side effects, caregiving capacity, continuity of care, and long-term care services. The interviewees emphasized the importance of APNs providing telepalliative care urgently need real-time monitoring of tumor status encouraged with new therapeutic strategies as follow-up care of metastatic cancer in home-based nursing care.

Based on the findings, first, telepalliative care in home-based nursing care should involve a multidisciplinary team to support cancer patients, as well as technical support in accessing the healthcare system (sign-up, low-cost devices, data plans, and broadband). Second, practical strategies should also include further training of both APN providers and patients on how to efficiently and effectively use the telepalliative care tool, quality nursing practice, and online platforms. Finally, policy implications can be gained by implementing an efficient solution for older adults that is mutual, comprising accessible health services, digital health literacy, and technological devices, which can effectively facilitate telepalliative care in home-based nursing care.

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Author contributions

Conceptualization and design: JS, CM, BR, and CS. Methodology: JS, CM, BR, and CS. Formal analysis: JS, CM, BR, and CS. Writing—original draft: JS, CM, BR, and CS. Writing—review and editing: JS, CM, BR, and CS. Project administration: JS. Funding acquisition: JS. All authors have read and agreed to the published version of the manuscript.

Availability of Data and Materials

The dataset used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics Approval and Consent to Participate

The Human Research Ethics Committee of Thammasat University (Science), Thailand has approved the study project in accordance with the compliance to the Declaration of Helsinki, the Belmont report, CIOMS Guidelines, and the International Practice (ICH-GCP) (COA No. 032/2566, Project No. 66NU016).

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Informed Consent

All participants signed a consent form prior to participation.

ORCID iD

Jinpitcha Sathiyamas https://orcid.org/0000-0003-1749-3326

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