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The pain management experience of patients with palliative cancer using cannabis in the northeastern part of Thailand

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Abstract: *The study aimed to study the pain management experience of patients with palliative cancer using cannabis. The study design was qualitative research. The data were collected using in-depth interviews with 20 patients with palliative cancer. Participants were recruited from six hospitals in the northeastern part of Thailand. The data were analyzed through thematic analysis. The study found that the patients aged between 27 and 74 years, and the mean age was 59.55 years; the onset of cancer was 8 months to 9 years; and the mean duration of illness was 2.31 years. The pain management experience of palliative cancer patients using cannabis is Cannabis oil, Fresh cannabis, Morphine, Analgesics, Paracetamol, Surgery, Chemotherapy, Didn't take analgesics and Medicine that slows the growth of tumors. Palliative cancer patients who used cannabis found that they slept better, ate more, reduced pain, had a good mood, etc. Patients who used cannabis for palliative care had a higher quality of life. There were no serious adverse side effects from cannabis use. Medical cannabis should be encouraged for palliative cancer patients who want to use it alone or with other treatments.*

Keywords:*Pain management experience, Cannabis, Patients with palliative cancer, northeastern part of Thailand*

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I. INTRODUCTION

Palliative care enhances the quality of life for patients and their families who are coping with the physical, psychological, social, or spiritual challenges associated with a life-threatening illness. Likewise, the caregivers' quality of life improves. An estimated 56.8 million people annually, including 25.7 million in their final year of life, require palliative care. Approximately 14% of those who require palliative care worldwide currently receive it. Access to sufficient palliative care is denied by unnecessarily restrictive regulations for morphine and other essential controlled palliative medications. To increase access, national policies, programs, resources, and training on palliative care for health professionals are urgently required. The global demand for palliative care will continue to increase due to the aging of populations, the rising prevalence of noncommunicable diseases, and the emergence of certain communicable diseases. Early administration of palliative care reduces hospital admissions and the utilization of health services that are unnecessary. Palliative care involves a variety of services provided by a variety of professionals who all play equally essential roles in supporting the patient and their family. These professionals include physicians, nurses, support workers, paramedics, pharmacists, physiotherapists, and volunteers. (World Health Organization, 2020).

Thailand has 191 thousand cancer patients annually, which ranks seventh in Asia (International Agency for Research on Cancer;Thailand Source: Globocan, 2020). The most common clinical symptom is pain in which 65.10 percent of patients had experienced (Napa Taweeyanyongkul, Suchira Chaiviboontham and Bualuang Sumdaengrit, 2015). It is the primary factor that diminishes patients' quality of life. Patients with cancer are palliatively treated with opioids. Currently, the government has enacted legislation to allow cannabis for medical use, but it has been found that most patients are receiving drugs from outside the public health system. Therefore, information on how cannabis can be used is limited. Studies to explore how patients with cancer used cannabis is needed.

A review of the clinical literature regarding cannabis in Thailand revealed the following. The analysis of 224 patients prescribed Golden Turmeric Cannabis Oil (GTCO) revealed that 56.25 percent were females with a mean age of 53±13.35 years. The formula was prescribed for migraine (46.88%), pain (29.02%), insomnia (16.96%), and other symptoms such as psoriasis, cancer, Parkinson's disease, and allergies (7.14%). The recommended starting dosage ranged from 2 to 3 drops per day, but the majority of patients (92.86%) received only 2 drops at bedtime, with no dose adjustments. The second and third dosages were both altered to three drips per day (73.21 percent and 81.70 percent, respectively). Based on the Edmonton Symptom Assessment Scale (ESAS) and data collected from the EQ-5D-5L questionnaire, the mean utility value increased substantially ($p<0.001$) after three months of treatment compared to before treatmen (Poramate Kinggo, 2023).

The cannabis extract utilized in our clinic is GPO THC oil 0.5 mg/drop; the EQ-5D-5L quality of life scores and pain scores were collected and compared at each clinic visit using repeated measure ANOVA and the Friedman test. The results revealed that the mean age of the 85 patients who participated in this study was 59.4 12 years; 54% were male and 41% had used cannabis prior to their clinic visit. The most prevalent uses of cannabis extract were palliative care (53%) and pain relief (40%), migraine (4%), insomnia (2%) and chemotherapy-related nausea/vomiting (1%). Ten visits were conducted for a total of fifty patients. The median quality of life score increased significantly [0.016 (-0.131, 0.279); -0.283-0.960 vs 0.132(-0.204,0.703); -0.204-0.703, $P < 0.001$] and the mean pain score decreased significantly (8.24±2.3 vs 5.00±2.0, $P<0.001$) (Piyawan Lueangchiranothai, Siriphorn Palawong and Thassanee Kamol, 2021).

Before and after receiving Cannabis oil, the quality of life for 165 patients who received Cannabis oil was (Mean=0.66 SD.=0.29) and (Mean=0.81 SD.=0.26), respectively. This study found that Canabis oil treatment improved patients' quality of life ($p<0.001$), with the majority of patients experiencing no adverse effects and a high level of overall satisfaction (Mean=4.08, SD.=0.16) (Sumalee Rattanawwarittikul, 2023)

Throughout the duration of the research, cannabis oil was used to treat 35 patients. The average age of the 22 males was 65.48 years old. Palliative care (22, 62.86%), insomnia (5, 14.29%), cancer pain (4, 11.43%), chronic pain (2, 5.71%), multiple sclerosis (1, 2.86%), and epilepsy (1, 2.86%) were among the indications for the use of cannabis oil. Patients' quality of life improved substantially from 0.875±0.180 (range: 0.016-1.000) at baseline to 0.960±0.071 (range: 0.928-1.000) at the eighth visit ($p<0.001$). Concerning pain alleviation, the study revealed a decrease in average pain scores from 2.91±3.06 to 0.60±1.34. According to Naranjo's algorithm, adverse events occurred in 3 cannabis oil-using patients (8.57%) (Sudarat Khamjulla and Siripak Thongkun, 2022).

The results of six-monthly examinations indicated that cannabis sublingual oil containing 1.7% THC w/v could substantially alleviate pain, anorexia, insomnia, and anxiety. The quality of life of these patients has tended to improve, particularly over the past three months. The median utility score of the EQ-5D-5L questionnaire was 0.767 prior to administration of cannabis sublingual oil containing 1.7% THC by weight, and increased to 0.928 six months later. The incidence of adverse events was 30.10 percent, with the vast majority of adverse events being manageable. However, only 11 patients had completed the 6-month follow-up, a dropout rate of 77.3% (Waleerat Kraikosol, Arsala Chaocharoen, Paloch Laemluang, Natdanai Musigawong and Pakakrong Kwankhao, 2021).

The average age was 60, and 55.6% of the population was female. Colon cancer was the most prevalent malignancy. Daily THC consumption ranged from 0.5 to 5 mg. The severity of pain, fatigue, vertigo, depression, anxiety, loss of appetite, and insomnia improved substantially, while lethargy, well-being, and shortness of breath remained unchanged. We also discovered an improvement in sleep (65.1%), a reduction in pain (50.8%), and an increase in appetite (42.9%). There were 19.1% adverse effects, but the majority were modest symptoms like parched mouth or pharynx (17.5%). Nausea & vomiting (1.6%) and vertigo (1.6%) (Attasit Srisubat, Somchai Thanasithichai, Arunee Thaiyakul, Sureeporn Konlaeaid, Woranut Arunratanachot, Thanarath Imsuwanasri, Chananyoo Mongkol, Wanasri Phaisaltuntiwongs and Warunee Sawetprawichkul, 2021).

This report details the clinical experience of treating 54 patients with 1.7 THC cannabis oil, Chaophraya Abhaihubejhr fomular at Pranangklao Hospital in Nonthaburi province between January and December 2020. 33 (61.1%) of the 54 patients continued treatment. In 27 (81.8%) of the 33 patients who received continuous treatment, efficacy of treatment was observed. Patients with pain, stage IV cancer, palliative care, Parkinson's disease, insomnia, and Tourette syndrome received effective treatment. In the investigation, severe treatment

adverse effects such as delirium, hypoglycemia, and hallucination were not observed. Patients most frequently reported experiencing transient disequilibrium. Therefore, cannabis oil containing 1.7 THC is safe and beneficial (Jeerasak Srijaroen, 2021).

The research was experimental in nature. Fourteen patients with stage IV cancer were recruited and progressively titrated with 1 to 4 mg/day sublingual THC and CBD as in-patients at the National Cancer Institute. Every patient was followed for three months. One of fourteen patients (7%) experienced transient hallucinations on the third day of treatment, but the symptoms vanished after medical cannabis was discontinued. Seven of fourteen (50%) patients with moderate to severe pain reported a reduction in their pain score, and four of these patients did not receive any analgesics throughout the course. Ten of twelve patients (83.33%) with insomnia had improved appetites, while all twelve patients with insomnia slept better (Thanasitthichai S, Simasatikul C, Srisubat A, Krongkaew W, Kunin B, Seedadard R, Chuensanit L, Sailamai P, Naewvong S, Buasom R, Krairittichai J, Suwanpidokkul N, Bodhibukkana C, Prayakprom P and Khaowroongrueng V, 2020).

However, it is insufficient due to a scarcity of empirical research in the country. Due to the inability of medical professionals to prescribe medical cannabis to patients who seek services to obtain unambiguous indications, the Ministry of Public Health and all relevant agencies, including educational institutions, must conduct research and compile data.

II. RESEARCH METHODOLOGY

1.1 **Objective**

The study aimed to study the pain management experience of patients with palliative cancer using cannabis.

1.2 **Research design and Participants**

The study design was qualitative research. The data were collected using in-depth interviews of 20 patients from 49 with palliative cancer. Participants were recruited from 6 hospitals in northeastern part of Thailand including Srinagarind Hospital, Sirindhorn Hospital, Yangsisurat Hospital, Phra Ajarn Fan Acharo Hospital, Phon Hospital and Nong Han Hospital. The data were analyzed by thematic analysis.

Inclusion criteria: 1) Male or female 2) 18 years of age or older 3) Receive treatment at Srinakarin Hospital, Faculty of Medicine, Khon Kaen University; Sirindhorn Hospital, Khon Kaen Province; Yang Si Surat Hospital, Maha Sarakham Province; Phra Ajarn Fan Acharo Hospital, Sakon Nakhon Province; Nong Han Hospital, Udon Thani Province and Phon Hospital, Khon Kaen Province 4) being a patient with cancer of any system of the body in the palliative period 5) Using cannabis for treating cancer pain 6) Thai nationality 7) Able to communicate well and sensible 8) Consent to participate in the research project.

Exclusion Criteria: 1) Patients with paralysis, paralysis, unable to help themselves 2) being treated with methods other than cannabis during participating in the research project, including chemotherapy, radiotherapy, targeted drugs, surgery, Morphine, etc.

Criteria for withdrawing from the study: 1) When the cancer patient refuses to continue the interview.

1.3 **Volunteer Access Process**

The patients were still following up for treatment at the hospital. After the patients had met and received treatment from the doctor, the researcher asked the physician or nurse who provided care for the patient to notify the patient and ask permission to have the researcher visit to clarify the study objectives and processes and obtain informed consent.

If the patient did not come for follow-up treatment, the researcher would send a statement by mail to the address shown in the medical record to clarify the research project and obtain informed consent. The researcher created a form to notify the patient in the most convenient way for the research team to interview him or her and attached it to the back of the consent form. For example, by providing the patient's telephone number or the location where they agreed to meet and at the most convenient date and time. If the subjects agree to participate in the research, they must return the consent form that the research team has prepared with a postage stamp. With consent, the research team continued.

1.4 **Ethical approval**

The Institutional Review Board (IRB) of Khon Kaen University in Thailand (approval number: HE651077) and the Sirindhorn Hospital's Ethics Committee (no. 0033.202.11/48) authorized this study.

III. RESULTS AND DISCUSSIONS

3.1. Forms of cannabis

Table 1 Forms of cannabis, Number and percentage of patients with palliative cancer in the cannabis group

Treatment	Dosage form	Dosage	Cannabis n=49 (%)
The dosage form of cannabis the patient received (using more than one form of cannabis)			
1. Fresh cannabis (Boiled)	Use 3-5 fresh cannabis leaves or 3-5 cannabis inflorescences to boil with 1-2 liters of water	Drink 300 ml – 1 liter per day	12 (24.49%)
2. Fresh cannabis (Cooked)	Use 3-5 fresh cannabis leaves or 2-3 cannabis inflorescences in boiled, curried and fried dishes	Cannot be identified	1 (2.04%)
3. Dried cannabis (Boiled)	Use 1 handful of dried cannabis leaves or 2-3 cannabis inflorescences to boil with 1.5 - 2 liters of water	Drink 300 ml – 1 liter per day	3 (6.12%)
4. Dried cannabis (Smoked)	Use an inflorescence of marijuana, about 1 gram, roll it up with paper and smoke it	3 cigarettes per day	2 (4.08%)
5. Fresh or dried cannabis (Boiled with herbs)	1 handful of fresh or dried cannabis, boiled with other herbs	1-2 glasses in the morning, evening and 7-8 glasses per day	2 (4.08%)
6. Mordecha cannabis oil 5 ml	THC/drop = 0.08 mg CBD/drop = 0.02 mg	3-5 drops 1 time per day before bedtime	21 (42.86%)
7. Khamint thong cannabis oil 10 ml	Contains 100 g/l of mixed cannabis	3-5 drops 1 time per day before bedtime	4 (8.16%)
8. Mordecha cannabis oil 10% 10 ml	Cannabis extract in coconut oil, concentration 10% by weight of dried cannabis inflorescences (THC 2.0 mg/ml)	3-5 drops 1 time per day before bedtime	11 (22.45%)
9. GPO cannabis oil 5 ml	THC: CBD 1:1	1-2 drops 1 time per day before bedtime	1 (2.04%)
10. Cannabis extract THC 1.7% Abhaibhubejhr	THC 1.7%	1-2 drops 1 time per day before bedtime	2 (4.08%)
11. Ya-San-Tha-Kat-klon-hang (Contains cannabis as an ingredient)	1 gram of cannabis in 21 g of medicinal powder	Take 2 capsules before meals, 2 times a day, morning and evening	1 (2.04%)
12. Ya-Tham-Lai-Phra-Sumeru (Contains cannabis as an ingredient)	30 g of cannabis in 1388.75 grams of medicinal powder	Take 2 grams before each meal, 2 times a day, morning and evening, using red sugarcane juice or cow milk as a juice, or use boiled water instead	1 (2.04%)
13. Ya-Sookh-Sai-Yat (Contains cannabis as an ingredient)	12 g of cannabis in 78 g of medicinal powder	Take 2 capsules 2 times a day before breakfast and dinner	5 (10.20%)
14. Cannabis Oil (Self bought)	Cannot be identified	5 drops 1 time per day before bedtime	2 (4.08%)
15. Cannabis oil capsules (Self bought)	Cannot be identified	1 capsule 1 time per day before bedtime	1 (2.04%)

Table 1 presents palliative cancer patients who use cannabis. The first group used Mordecha cannabis oil (THC/drop = 0.08 mg, CBD/drop = 0.02 mg) and numbered 21 people (42.86%). The second used fresh cannabis (boiled) to drink by yourself, numbering 12 people (24.49%), and the third used 10% Mordecha cannabis oil (cannabis extract in coconut oil, 10% concentration of dried cannabis inflorescence weight (THC 2.0 mg/ml)) and numbered 11 people (22.45%).

3.2 The pain management experience

The study found that the patients aged between 27-74 years, and the mean age was 59.55 years, the onset of cancer was 8 months - 9 years, and the mean duration of illness was 2.31 years. The pain management experience of palliative cancer patients using cannabis can be summarized in Figure 1 and the following message.

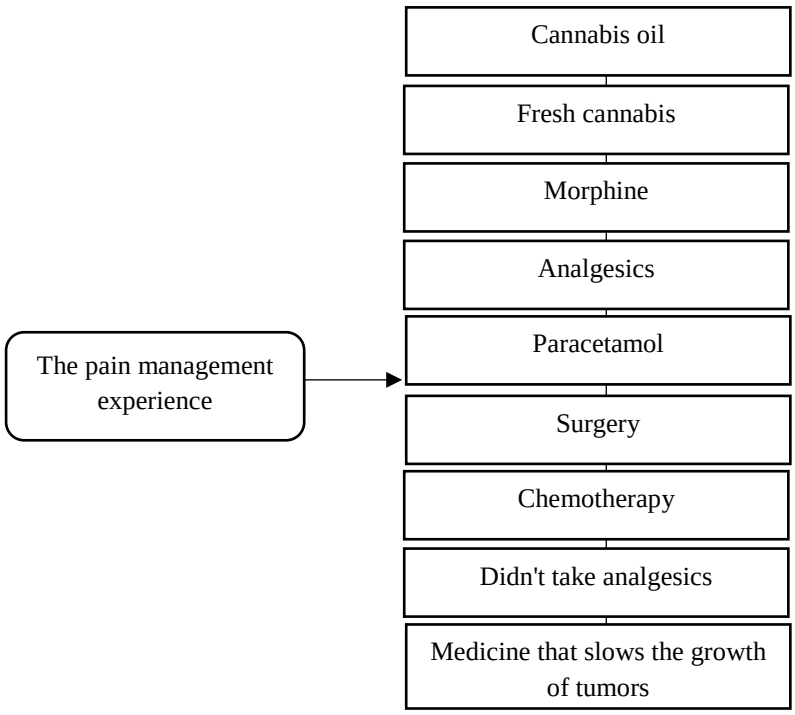

Figure 1. Final thematic map of the pain management experience

"When experiencing pain, I consume one paracetamol tablet at a time." (Interview with patients with palliative cholangiocarcinoma, September 20, 2022)

"When I am in agony, I obtain analgesics and anti-inflammatory medications from the infirmary. If I have discomfort when I visit the doctor, I always receive them. After consuming the medication, the pain improves." (Interview with patients with palliative breast cancer, September 15, 2022)

"Take analgesics, but the agony will persist. Only chemotherapy can alleviate the agony. In hospitals, paracetamol is prescribed for pain alleviation." (Interview with patients with palliative lymphoma, September 29, 2022)

"If the pain is severe, I can take one paracetamol tablet at a time. After taking paracetamol, I feel temporarily better, which is preferable to not taking the medication, but I do not take it frequently." (Interview with patients with palliative lung cancer, October 24, 2022)

"*When I experience pain, I consume analgesics for ten to fifteen minutes, and the discomfort is gone. The appropriate analgesic is morphine. When experiencing discomfort for the first time, consume 1 pill. After consuming the medication, the discomfort disappears. The agony diminishes immediately*." (Interview with Patients with Palliative Cholangiocarcinoma, November 30, 2022)

"Take cannabis oil by itself, sublingually. Occasionally disregard doctor's orders if we experience discomfort. Suppose a clinician uses cannabis oil. 2 drops under the tongue daily, I am placing 3 drops under the tongue. The agony will be gone when i wake up in the morning." (Interview with Patients with Palliative bladder cancer, January 10, 2023)

"*In addition to using cannabis, I will be taking analgesics from the hospital, which I will ask the doctor to prescribe (laughing hahahaha). She advised me to cease consuming if the pain is gone. If it aches, eat. After consuming, the discomfort vanished. After three days of dining, that's it. So, I gave up consuming."* (Interview with Patients with palliative cervical cancer, January 24, 2023)

"*The hospital gave me morphine, but I wasn't sure if I needed it; if the pain wasn't so severe, I wouldn't take it. I have morphine twice but have not yet used it. Only use fresh cannabis. I planted a cannabis plant in front of my residence, and there is another one in the backyard. I'll have the doctor see it."* (Interview with patients with palliative esophageal cancer, September 30, 2022)

"*No, I didn't take analgesics. I had agony for some time before consulting a physician and undergoing surgery. The pain was, as usual, gone."* (Interview with Patients with Palliative Colon Cancer, December 27, 2022)

"*If it's not necessary, do not consume medication. I still do not want to take the leg pain medication. Painkillers are not consumed. If the agony is not severe, I will not want to consume.*" (Interview with patients with palliative rectal cancer, December 7, 2022)

"*I didn't take analgesics. Natural release implies that the discomfort dissipates over time. It does not pain constantly. I have no medication to ingest, Doctor."* (Interview with patients with palliative lung cancer, January 3, 2023)

"*I didn't take analgesics."* (Interview with patients with palliative lymphoma, 7 October 2022)

"*I sat and rested for a while. Sometimes, if there is a lot of pain, take 1 tablet of paracetamol at a time. And in the evening, cannabis drops before bedtime. Take paracetamol and feel it's better for a little bit, better than not eating, but not often; if it hurts more than usual, then eat. The cannabis that has been instilled will play a part. In the evening, when it hurts, it will hurt all day, especially from the lower part from the waist down to the legs. The soles of the feet will always hurt, and the soles of the feet will be hot 24 hours a day. When it's time to go to bed, I instill cannabis for about 10 to 15 minutes. There is a feeling that it will relax us and make us fall asleep faster. But the morning and noon do not instill, and because I'm taking other medicines right now, I'm afraid that there will be a reaction."* (Interview with patients with palliative lung cancer, 9 January 2023)

"Nowadays, the doctors are treating me with medicines to slow down the growth of the lumps. The pain has decreased a bit." (Interview with patients with palliative thyroid cancer, March 3, 2023)

Consistent with past research that, the effectiveness was evaluated by comparing the results before and after three months of cannabis oil treatment for the patients. Eighty-two percent of the 200 patients were female. They averaged 51.34±3.09 years of age. The data collected by the EQ-5D-5L questionnaire revealed that the utility measurement was 0.80±0.19 prior to the intervention and 0.86±0.16 after the 3-month intervention, with the average utility measurement increasing substantially ($p<0.05$). Comparing the quality of sleep before and after cannabis oil treatment, the average score decreased substantially from 14.07±1.87 to 7.35±1.87 (Kanyapak Silarak, 2022).

Thirty-five patients were identified, consisting of thirteen females and twelve males with a mean age of 56±13.08 years. The average global PSQI score prior to treatment (visit 0) was 14.76±3.07, and the average global PSQI score during follow-up (visits 1–6) was 10.56±3.69, 7.70±3.54, 9.30±3.56, 8.71±4.38, 7.20±3.89, and 8.00±5.29, respectively. The comparison of global PSQI scores before and after treatment revealed a significant decrease ($p<0.05$) in all visits with the exception of the sixth and final visit. Six patients were classified as having adequate sleep quality (PSQI global score 5) following treatment. The quality of life, as measured by EQ-5D-5L, increased only marginally, most likely because it was already high to begin with. In 64% of patients, gastrointestinal tract irritation was the most prevalent adverse effect (Nutcha Tengtermwong, 2021).

59.1% of 110 patients with insomnia who were prescribed Suk sai yad recipe from eight hospitals reported an improvement in their quality of life after taking the medication. The average EQ-5D-5L score was substantially higher after medication administration (0.94±0.128) than before (0.84±0.193) ($p<0.001$). 80% of patients reported an improvement in their overall perception of sleep quality. There were 44.5% with improved sleep quality and 27.3% with fewer nighttime awakenings. 34.5 percent of patients reported experiencing adverse effects. The mild side effects included dry mouth and pharynx, vertigo, and indigestion. Moreover, our analysis revealed that a history of drug/herb allergy was associated with the occurrence of adverse effects ($p<0.001$). Patients whose inherent body elements were Fire were more likely to experience adverse effects (Kulphassorn Jamparngernthaweesri, Natchagorn Lumlerdkij, Suksalin Booranasubkajorn and Pravit Akarasereenont, 2023).

IV. CONCLUSION

Palliative cancer patients' experiences with pain management differ considerably. Now, however, 20 cancer patients recruited from 49 cancer patients who use cannabis have discovered that cannabis use reduces pain, increases appetite, prolongs sleep, and increases relaxation. Therefore, the researcher agrees that the use of cannabis is an alternative treatment for cancer patients undergoing palliative care, but that it must be administered under the supervision of a specialist, or that individuals can use cannabis on their own but must have a consultant who is a specialist.

Conflict of interest

There is no conflict to disclose.

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